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CATALOG

1982-1983

Thirty-second year

GRADUATE SCHOOL
UNIVERSITY of SCRANTON

This edition of the Graduate School Catalogue is dedicated to William J. Byron, S.J., Ph.D., who was President of the University of Scranton from 1975 to 1982. We wish him well in his new position as President of the Catholic University of America.

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Phi Delta Kappa

RESEARCH—SERVICE—LEADERSHIP

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A SALUTE

"Educator of the Year"

Rev. William J. Byron, S.J.

Father Byron was born on May 25, 1927 to Harold J. and Mary Langton Byron of Pittsburgh, Pennsylvania. He attended St. Joseph's Preparatory School in Philadelphia from where he graduated in 1945.

Father Byron served in the U. S. Army, 508th Parachute Infantry from 1945-46. He entered St. Joseph's College, Philadelphia in 1947 graduating in 1950. Following graduation he entered the Jesuit Novitiate, Wernersville, PA. Father was at Wernersville from 1950-53. He graduated from St. Louis University with an A.B. in Philosophy in 1955, a Ph.L. (Licentiate in Philosophy) in 1956, and an M.A. in Economics in 1959. Father Byron was awarded an S.T.B. (Bachelor of Sacred Theology) in 1960 and an S.T.L. (Licentiate in Sacred Theology) in 1962 - both from Woodstock College.

In 1969 Father Byron received his Ph.D. in Economics from the University of Maryland. Father also attended Harvard University receiving a certificate from the Institute of Educational Management.

Father William J. Byron was ordained to the Roman Catholic priesthood as a member of the Jesuit Order on June 18, 1961.

Father has had a wide variety of teaching and administrative experiences some of which are: Instructor of Mathematics at the Scranton Preparatory School; Editorial Staff of America Magazine; U. S. Department of Labor Manpower Research Fellow and Teaching Assistant at the University of Maryland; Assistant Professor of Economics at Loyola College in Baltimore; Associate Professor of Social Ethics and Director of Field Education at Woodstock College in New York City; Director of Social Ministries for the Maryland Province of the Society of Jesus; and Dean, College of Arts and Sciences and Associate Professor of Economics at Loyola University in New Orleans.

Some special honors that Father Byron has received are: Alpha Sigma Nu (1950); Outstanding Educators of America (1971); Who's Who in America (41st ed.); cited by the William Penn Committee as one of the fifty "Distinguished Pennsylvanians" in 1980; Greater Scranton Area Jaycees 1981 Man-of-the-Year Award.

Father Byron is a member of the American Economics Association; American Society of Christian Ethics; American Association of University Professors; American Council on Education.

At the beginning of the 1982 Fall term, Father Byron will assume the Presidency of the Catholic University of America.

Bulletin of the University of Scranton

Volume 65 AUGUST 1982 Number 13

The Graduate School

For Men and Women

Scranton, Pennsylvania 18510
Phone: (717) 961-7600

STATEMENT OF OWNERSHIP

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"University of Scranton"

Scranton, Pennsylvania

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National Council for Accreditation of Teacher Education
American Chemical Society
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Pennsylvania Association of Graduate Schools
Pennsylvania Council for International Education
The Council of Graduate Schools in the United States

UNIVERSITY OF SCRANTON
GRADUATE SCHOOL

CALENDAR FOR FALL — 1982

August 31 ..... Registration
September 1 ..... Registration
September 1 ..... Classes begin
September 14 ..... Final day for change of course and late registration
October 9 ..... Comprehensive examinations
October 20 ..... Last day for submission of graduate thesis or scholarly paper (final draft)
November 24-28 ..... Thanksgiving holidays
December 14-20 ..... Final examinations
December 20 ..... Semester ends

CALENDAR FOR INTERSESSION — 1983

January 3 ..... Registration
January 3 ..... Classes begin
January 29 ..... Semester ends

CALENDAR FOR SPRING — 1983

February 1, 2 ..... Registration
February 2 ..... Classes begin
February 15 ..... Final day for late registration and change of course
March 12 ..... Comprehensive examinations
March 23 ..... Last day for submission of graduate thesis or scholarly paper (final draft)
March 30 - April 4 ..... Easter holidays
May 17-23 ..... Final examinations
May 28 ..... Commencement

CALENDAR FOR SUMMER — 1983

(Please see Summer Brochure for Special Sessions)

June 20, 21 ..... Registration
June 20 ..... Classes begin
June 24 ..... Final day for late registration and change of course
June 30 ..... Last day for submission of graduate thesis or scholarly paper (final draft)
July 4 ..... Independence Day - No classes
Classes held on July 8
July 9 ..... Comprehensive examinations
July 29, 30 ..... Final examinations
July 30 ..... Semester ends

TENTATIVE CALENDAR FOR FALL — 1983

September 6, 7 ..... Registration
September 6 ..... Semester begins

GRADUATE SCHOOL ADVISORY COUNCIL
Dean's Conference 1982-83

Harry B. Strickland ..... *Chairman, Dean of the Graduate School*

Joseph A. Fusaro ..... *Acting Associate Dean of the Graduate School*

Raymond Kimble ..... *Associate Professor of Education and Chairman of Department*

Robert A. Sallavanti ..... *Professor of Chemistry and Chairman of Department*

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John K. Stout ..... *Associate Professor of Human Resources and Director of Graduate Studies*

Ralph W. Grambo ..... *Associate Professor of Business Administration and Director of M.B.A. Program*

Roman Tatarowicz ..... *Student Representative to Dean's Conference*

Ann Auletta ..... *Student Representative to Dean's Conference*

Pamela Walsh ..... *Student Representative to Dean's Conference*

Lisa Borrelli ..... *Student Representative to University Senate; President, Graduate School Student Advisory Council*

GENERAL INFORMATION

The Univesity of Scranton, the oldest Catholic institution of higher education in Northeastern Pennsylvania, was founded in 1888 as Saint Thomas College. It is chartered under the laws of the Commonwealth of Pennsylvania and empowered to confer Bachelor's and Master's degrees in the Arts, Sciences, Business Administration and Education. In 1938 Saint Thomas College became the University of Scranton, while four years later the Society of Jesus acquired title from the Catholic Diocese of Scranton and administrative control from the Brothers of the Christian Schools. Thus Scranton became the tweny-fourth of the twenty-eight Jesuit colleges and universities in the United States.

In 1950 graduate study in Education was initiated, the first Master's degree being awarded in June, 1952. Since that time more extensive programs were developed in Elementary Education, Psychology and Guidance, Educational Administration. Through courses at the University's Graduate School several State Certificates may be obtained. A graduate History program was first offered in 1955, while graduate curricula in English and in Business Administration are of 1960 origin. Graduate programs in Chemistry and Physics began in the Fall of 1967.

The University of Scranton Graduate School offers programs of study leading to the following degrees: Master of Business Administration; Master of Arts in English and History; Master of Arts or Master of Science in Chemistry, Biochemistry, Physics, and Solid State Electronics. In addition a Master of Arts or a Master of Science degree program may be selected in any of the following areas: Elementary and Secondary Education, Elementary and Secondary School Administration, Counselor Education, General Science, and Reading. A Master of Science only may be selected in Human Resources Administration and Rehabilitation Counseling. A program of study can be developed by the student correlating a M.S. program in Secondary Education with Business, English, History, Mathematics, General Science, Chemistry, Physics, and Social Studies.

Students in the M.A. program in History and English have the option of a thesis or non-thesis program; those in the M.A. program in Education, Chemistry and Physics are required to complete a thesis.

OBJECTIVES

As one of the family of world wide Jesuit Colleges and Universities, the University of Scranton shares with them a common educational heritage and tradition. Its principal objective, therefore, is:

to lead the student to understand and to inspire him to fulfill that complex of dignities and responsibilities which Man is, as a person and as a member of human society, under God.

Specifically, as the university in this community, the University of Scranton labors to prepare its students to be thoughtful, active, effective citizens with a developed sense of leadership and a dedicated spirit of community service in the arts and professions.

More particularly, the Graduate School of this University aims; 1) to communicate, interpret, intensify and integrate academic knowledge and relationships; 2) to develop professional attitudes, skills and competence in the student's chosen area of concentration; 3) to foster those value judgments so basic to human life and education—values which flow not only from a given discipline but also from Christian revelation and the Judæo-Græco-Roman, Western moral and intellectual tradition; 4) to promote research.

ORGANIZATION AND LOCATION

The administration and supervision of the Graduate School is the responsibility of the Dean of the Graduate School. He is assisted by a Graduate Advisory Committee, of which he is chairman. All questions concerning admission, candidacy and comprehensive examinations or modifications of course programs, must be submitted in writing to the Dean of the Graduate School. Decisions of the Dean of the Graduate School and his Advisory Committee are final.

Requests for admission, transcript, letters to interested parties, and data concerning academic records should be made to the Graduate Office, University of Scranton.

The office of the Dean of the Graduate School is Room 310, St. Thomas Hall, Monroe & Linden Street. The office is open daily from 8:30 a.m. to 4:30 p.m. Monday through Friday. When classes are in session it is also open in the evenings and on Saturday mornings. FOR STUDENTS WHO WISH TO CONSULT THE DEAN THE COURTESY OF CALLING FOR AN APPOINTMENT IS RECOMMENDED.

There are three regular semesters of graduate courses: Fall, Spring and Summer. Fall and Spring graduate courses are taught each evening, except Friday, at Monroe & Linden Street from late afternoon to 10:00 P.M. and on Saturdays from 9:00 A.M. to 1:00 P.M. During the Summer term, graduate classes are scheduled Monday through Thursday for six weeks.

An Intersession Program is held between the Fall and Spring Semester. Please consult the special bulletin issued in December regarding the details of this session.

Graduate courses in the M.B.A. program are usually taught at O'Hara Hall, Linden St. and Jefferson Avenue.

Time schedules for each course appear in the special bulletins published four times each year for Fall, Intersession, Spring and Summer programs, and can be obtained at the Graduate School Office..

COLLEGE MISERICORDIA

Through a special arrangement the Graduate School cooperates with College Misericordia's Department of Nursing in their offering of a Master of Science degree in Nursing. Inquiries regarding this program should be directed to the Director of the Graduate Program in Nursing, College Misericordia.

HIMALAYAN INTERNATIONAL INSTITUTE

The University of Scranton in affiliation with the Himalayan International Institute offers a Master of Science degree in Eastern Studies and Comparative Psychology. Inquiries should be directed to the Administrator, Program in Eastern Studies and Comparative Psychology, Himalayan International Institute, R.D. 1, Box 88, Honesdale, Pennsylvania, 18431.

APPLICATIONS

All planning to enter the Graduate School should contact the Graduate Office for an application form. Completed applications, together with transcripts of undergraduate and graduate work taken elsewhere, should be in the Graduate Office two months before the applicant begins graduate study. INTERNATIONAL STUDENTS SHOULD ALLOW AT LEAST THREE MONTHS.

ADMISSION STANDARDS

The admission standards and policies of the University of Scranton are free of any limitation, specification or discrimination on the grounds of race, religion, color, national or ethnic origin, sex, age, or handicap, except as provided by law.

An applicant for admission to the Graduate School must possess a baccalaureate degree from an accredited American college or university, or the equivalent from an international college or university. He/she ordinarily must have earned at least a 2.5 QPI. In addition, the applicant's undergraduate program must show the successful completion of all prerequisites for graduate work in the department and/or program in which the prospective student plans to study. For exceptions to this requirement, please see page 8 for explanations of admissions categories.

Ordinarily, the applicant must submit the following to be con-

sidered for admission to the Graduate School:

- The graduate application properly completed, including the nonrefundable application fee
- Official transcripts of all previous undergraduate and graduate academic work completed at accredited institutions
- A personal statement of intention and qualification for graduate study
- Three references from persons familiar with the applicant's educational background and work or personal character
- A score earned on the Miller Analogy Test, Graduate Management Admission Test, or the Graduate Record Examination as required by the specific department or program
- International students are required to submit a TOEFL score.

As previously stated, applicants for admission to the Graduate School are expected to have earned a minimum grade-point average of 2.5 on a grading scale of 4.00. Individual programs may establish higher grade-point average requirements and use other criteria to judge candidates for admission. Kindly see the appropriate section of this catalog for the standards established by the separate departments and/or programs.

Admission to the Graduate School does not necessarily constitute admission to the department or graduate program in which the applicant plans to pursue studies. The establishment of specific standards by which an applicant is admitted to a specific graduate program is the responsibility of the separate departments and programs; admission to the Graduate School is under the authority and responsibility of the Dean. In determining admission the Dean is aided by the Graduate Admissions Committee which is composed of at least two evaluators. Admission decisions are based on an evaluation of all materials submitted by the applicant in support of the application. The Admissions Committee seeks evidence that the applicant is likely to make a contribution to research or to the advancement of a specific profession.

The personal statement, professional experience and supporting references provide very important qualitative evidence regarding the applicant's potential for successful achievement in graduate studies. The academic record and high advanced-test scores do not in themselves, therefore, ensure admission. Occasionally, the Admissions Committee views other factors as important considerations; such as, professional achievements, recognized abilities or interests, substantial public service, and the overcoming of personal, societal or educational obstacles.

Applicants may be admitted to the Graduate School in one the following categories:

Regular Admission. Applicants are admitted under this category when they have satisfied the admissions criteria of both the Graduate School and the department or program in which they are to enroll for graduate studies.

Provisional Admission. Applicants are admitted to the Graduate School under this category when their credentials are either incomplete at the time of application or when there is evidence of a deficiency in their academic preparation for studies in their chosen graduate program. Incomplete credentials may result because the application was submitted prior to the conferring of the baccalaureate degree, essential undergraduate grades are not yet available, or advanced test scores have not yet been reported, et cetera. An academic deficiency in preparatory studies would be determined by the requirements of the separate department or program in which the applicant seeks admission.

Special Admission. Applicants who are admitted to the Graduate School under this category are nondegree students. They are admitted to pursue studies for certification, transfer of credit, self-improvement, master equivalency, or auditing. The continuance of graduate studies under this category is governed by the grade policy of the Graduate School. A qualified undergraduate student who has been admitted to an accelerated course of study that permits him or her to earn graduate credit is accepted into the Graduate School as a special student under this category. Acceptance as a degree student is contingent upon the reception of the baccalaureate degree in addition to the successful fulfillment of all other requirements for admission into the Graduate School.

Admission to the Graduate School, under any of the above categories, does not necessarily imply admission to candidacy for a graduate degree.

After admission to the Graduate School ,each student's record is periodically evaluated to ensure adherence to the standards of both the Graduate School and the department or program in which the student is pursuing graduate study. The results of these evaluations determine the current status of the graduate student.

Candidacy. The student is considered a candidate for an advanced degree when the following criteria have been fulfilled:

— Completes successfully the specific courses and number of credits required by the department or program in which graduate studies are being pusued at the University of Scranton

— Submits formal application for degree candidacy to the Graduate School
— Receives approval from the department or program in the field of the student's major concentration according to departmental norms.

ENGLISH LANGUAGE REQUIREMENT — INTERNATIONAL STUDENTS

Students who are citizens of non-English-speaking countries will be required to complete a review course in English. This course is specifically designed for international students who already possess a working knowledge of the English language. It is not designed for the student who has not had any previous training in the English language.

In addition to a basic English review, the course will familiarize the international student with the technical language necessary for the advanced program in which he has enrolled.

International students who present a TOEFL (Test of English as a Foreign Language) score will be considered for waiver of the English course requirement. However, this waiver is based on individual interpretation of the TOEFL score, and not on a minimum achieved score.

REGISTRATION FOR COURSES

Registration for each semester will take place according to the schedules listed in the special bulletins which are issued prior to each semester. Mail registration is permitted after the initial acceptance and registration. Registration will be with the approval of a student's mentor or chairman of the department. *Students who wish to cancel their registration must give written notice to the Graduate School Office. Please see details under Withdrawal and Refunds.*

In order to facilitate registration for old and new students a period of pre-registration is held each semester. This will extend over a period of about 10 days and all graduate students taking courses during the current semester must register between the announced dates. Those who do not register and have an insufficient excuse will be charged a late registration fee of $15.

The University reserves the right to withdraw a course from its schedule in which less than ten students have been registered.

Undergraduate students may register for certain graduate courses. However, it is required that they have approval of the appropriate Department Chairman and the permission of the Dean.

MENTORS

From the inception of graduate study, students will be assigned a mentor to help them formulate a program of studies and supervise

their work. It is suggested that students work closely with their mentors and that the courtesy of arranging appointments in advance with faculty members so designated be observed by all students.

GRADES

Achievement of Graduate Student is recorded as *A—excellent; B+—superior; B—good; C—fair but passing; F—failure.* To insure qualitative standards, ordinarily, a student incurring 4 "C"s or 3 "C"s and an "F" ceases to be a candidate for a degree but may continue to take courses for information, self-improvement or credit. A student who fails any two courses will be automatically dismissed and so notified by mail.

Other grade symbols used are:

P which indicates pass. Individual departments are authorized the use of P (pass) or F (fail) under certain circumstances. Students in the Departments of Chemistry, Education and Human Resources should consult their Department Chairman and/or mentor for details;

IP which indicates a student is registered for a thesis or an approved research project which has not been completed at the end of a given semester but for which satisfactory progress is being made. This grade is temporary and once the work has been completed it must be converted to one of the permanent grade symbols;

W which means a student has withdrawn from a course, with approval, prior to an evaluation of the student's progress by an instructor;

WP or WF indicates that a student has withdrawn from a course, with approval, but an evaluation of the student's work had been made prior to the request for a withdrawal;

I indicates postponement of the completion of a course. It is given at the discretion of the instructor to a student who is doing satisfactory work but who has not completed all of the course requirements at the end of a given semester. Given such an extension, the student must complete all the required work, unless otherwise agreed, before the end of the next regular semester. Failure to complete the necessary work within the stipulated time results in automatic conversion of the "Incomplete" to the permanent grade of NC (never completed);

NC indicates that a student failed to complete the requirements of a course, in spite of an extension of time to do so.

"Audit" indicates that a student has taken a course for which permission has been granted to take without a grade being awarded. Students must secure such authorization prior to the start of a course.

The symbol "T" is a temporary grade citation issued by the Dean on grade reports when a faculty member fails to meet any announced deadline for the submission of student final grade reports. Students who received such grade reports should direct any inquiries regarding

same to the professor(s) involved. This procedure has been adopted in order to expedite the processing of aggregate final grade reports and student transcripts. Such temporary grade citations will be changed, in due course, to permanent grade symbols when issued by the professor(s) charged with that responsibility.

Regular attendance at class is considered a requisite for successful completion of a course.

TIME LIMIT

All graduate work for a degree, including the thesis, must be completed within six consecutive years. Time spent in the armed forces is not included in the six year period. Extension of this time restriction may be granted for valid reasons at the discretion of the Dean.

CONSORTIUM, INSTITUTES AND OFF-CAMPUS COURSES

The Graduate School conducts or participates in institutes and special off-campus courses or programs. Persons enrolling in such offerings are reminded of Graduate School student application and admission policies as cited earlier in this catalog.

Attention is specifically called to the fact that enrollment in these situations does not imply that the student has been automatically accepted as a "Degree Student". The ordinary student admission classification under these circumstances is "Special Student - Professional Improvement Only".

Students are further reminded that if university graduate credits are offered and earned in these cases that they may or may not be used for fulfilling degree requirements. Acceptance of these credits for degree purposes are dependent upon the course subject matter for which they were granted and the compatibilty of such matter with the student's perscribed degree program. The acceptability of credits so earned in these cases is determined by the student's mentor and/or the Director of the particular degree program. In any event, the maximum allowable credits to be so accepted can not exceed twelve. Students who contemplate utilizing such study situations for degree purposes are advised to secure written approval for such usage from their mentor and/or the Director of the appropriate degree program before enrolling.

TRANSFER OF CREDITS

After a student has acquired candidacy status he may request that approved graduate work previously completed at other institutions be accepted as partial fulfillment of graduate course requirements here. This will be granted only under the following conditions:

1. That such credits were acquired in residence at the other institution. Extension credits are, ordinarily, not acceptable.

2. That only six (6) credits maximum be transferred.
3. That courses to be transferred parallel courses here and mesh with the student's program at the University of Scranton.
4. That these credits were taken within six (6) years of the student's admission.
5. That a grade of B or better was acquired in these courses and that an official transcript is submitted for work at other institutions, including the course description of the credits in question.

Students martriculated at the University of Scranton may follow courses at other approved graduate schools, and transfer credits only with the previous permission of their mentor and the Dean of the Graduate School.

COMPREHENSIVE EXAMINATIONS

Before a Master of Arts or Master of Science degree is awarded, the candidate must pass a comprehensive examination in his graduate course work. This examination may be either oral, written or both. Eligibility for admission to the examination is determined by the student's mentor with the approval of the Department Committee. This examination will be given only on the dates published in the graduate catalogue. Application forms are obtainable at the Graduate School Office.

Several weeks before the examination date, the candidate should consult his mentor for a general explanation of the topics to be covered in the examination and file an application for the examination.

Candidates failing the comprehensive examination for the second time will not be considered for the advanced degree.

The results of the comprehensive examination will be forwarded to the candidate by mail.

THESIS

Candidates for the Master of Arts degree in Biochemistry, Chemistry, Education, and Physics must present a thesis, completed under the active supervision of the candidate's mentor and approved by one additional reader. In case of doubt, a third reader may be required. In the preparation of the thesis, style regulations prescribed by the Graduate School will be observed. Two copies of the accepted thesis must be submitted to the Graduate School Office on or before the date indicated in the university calendar.

SUMMARY

The following procedures are to be followed by students working for the advanced degree:

1) File an application for admission to graduate study, official transcripts of undergraduate preparation and of graduate credits taken elsewhere, and supporting recommendations.

2) Meet with their mentor to organize a program of studies in the major course concentration selected and confirm the program at each registration period.

3) Apply for candidacy for the degree by fulfilling requirements.

4) Complete core, specific major and elective courses.

5) Complete the required thesis or scholarly paper if applicable.

6) Successfully pass the required comprehensive examination.

7) Make formal application to the Graduate office for the degree.

ALUMNI MEMORIAL LIBRARY

The library is located on the Scranton Estate. It contains more than 200,000 bound volumes, with over 950 literary, scientific and professional periodicals currently received. Microfilm, micro fische, and micro card reading equipment is available, as well as, inter-library loan.

The library is open daily during the Fall and Spring Semesters from 8:30 A.M. to 11:30 P.M., Monday to Friday; 10:00 A.M. to 6:00 P.M. on Saturday; and 12:00 Noon to 11:30 P.M. on Sunday. During the Summer Semester, the hours are 8:30 A.M. to 10:00 P.M., Monday to Friday; 10:00 A.M. to 6:00 P.M. on Saturday; and 12:00 Noon to 8:00 P.M. on Sunday. The hours are subject to change.

COUNSELING AND PLACEMENT

The University's counseling and placement services are available to graduate students. The Counseling Center is located in the Gallery, 3rd floor. All offices are open on weekdays from 8:30 A.M. to 4:30 P.M. and at other times only by appointment.

In addition, there is an Career Services Office to serve students anticipating further graduate work, and for assistance in securing employment placement. Usually, special hours are scheduled to accommodate Graduate School students. Kindly contact the Career Services Office for these special periods.

FINANCIAL AID

Graduate teaching assistantships are available in each department offering graduate programs. Departments also award fellowships and assistantships to graduate students who aid in a variety of departmental duties, including assisting in faculty research. Traineeships are available for those students in the Rehabilitation Counseling program; aid is also provided for those enrolled in the Vocational Adjustment program through the Professional Education Program of

the State of Pennsylvania. Information and application forms for the assistantships, fellowships, and traineeships may be obtained from the Dean of the Graduate School.

Resident assistantships are offered to single male and female graduate students, providing room and board in the university's dormitories. Applications may be secured from the Student Personnel Office.

In addition, loan programs for graduate students, including the National Graduate and Professional School Financial Aid Service, and a number of campus jobs through the Work-Study program are offered. Inquiries regarding loan and Work-Study programs should be directed to the Financial Aid Office.

CAMPUS HOUSING

Limited housing is offered for single graduate students in the ten modern university dormitories and university owned off-campus residences. Please consult Student Personnel office for details.

PHYSICAL EDUCATION CENTER

The use of the John J. Long Center is provided for graduate students at a cost of $7.00 per semester. Facilities are provided in the physical education building, for all indoor sports such as basketball, handball, weight lifting. A physical therapy room and sauna bath are also housed in the structure.

COMPUTER CENTER

The Sigma 6 Xerox Data System, located in the Computer Center, is available for use by graduate students conducting research and programming functions in this area.

HONOR SOCIETIES

Chapter organizations of several national honor societies are maintained at the University of Scranton campus. Graduate students can be selected for membership in the following: Alpha Sigma Nu, international Jesuit honor society; Phi Delta Kappa, education; Phi Alpha Theta, national honor society in history; Delta Mu Delta, business administration honor society; Sigma Pi Sigma, physics honor society; Omicron Delta Epsilon, national honor society in economics and Phi Lambda Upsilon, honorary chemical society. Contact the chapter officers for further information regarding membership.

EXPENSES

GRADUATE SCHOOL

Tuition (per semester hour of credit) $110.00

Fees —

Application Fee 10.00

Library Fee (per semester)	10.00
Parking Fee (per semester)	5.00
Science Lab Fee	40.00
Late Registration	15.00
Prerequisite Challenge Examination Fee	30.00
Audio-Visual Aids Fee	5.00
Binding of Thesis	25.00
Graduation Fee	35.00

Unless explicitly stated otherwise, tuition and fees are for one semester and are payable at registration. Tuition charges are made for all credits awarded. The Graduation Fee is payable, whether or not, a student attends commencement exercises.

Students will not be permitted to receive any degree, certificate, or transcript of record until their financial accounts with the University have been satisfactorily settled.

WITHDRAWALS AND REFUNDS

Students are alerted that to cancel their registration and the charges involved in a course, they must give written notice to the Graduate Office. Students need only to complete the "drop sheet" form which is available at the Graduate Office. By taking such action students will be eligible for refunds based on the schedule indicated below. Failure to submit such notice will cause the student not only to lose any refund privileges but the initial charges will remain in total, whether a student was in attendance or not.

The following refund schedule will be applied to approved withdrawal cases, fees are not refundable:

SCHEDULE OF REFUNDS
FALL/SPRING SEMESTERS

Before the first day of a class and up to and including 9 calendar days after a class begins	100%
To and including 16 calendar days after a class has begun	75%
To and including 23 calendar days after a class has begun	50%
To and including 31 calendar days after a class has begun	25%
Beyond 31 days after a class has begun	No Refund

SUMMER and INTERSESSION

End of First Week	100%
End of Second Week	25%
Beyond Second Week	No Refund

DEPARTMENT OF EDUCATION

Dr. Raymond L. Kimble, Chairman

DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental Committee on Admissions with evidence of satisfactory undergraduate preparation to achieve graduate work of good quality. The Departmental Admissions Committee will consider each application toward this end.

The Admission Committee will also consider the academic and personal traits of each applicant in relation to his potential for satisfactory achievement in graduate study.

With the exception of counselor education majors, the applicant will have completed the ordinary state requirements for professional certification; of those seeking master degrees, a B average in undergraduate Education courses is expected. If undergraduate course preparation in Education or the general or liberal studies is deficient, as determined by the Admissions Committee, the student will correct the deficiency before he applies for candidacy for the advanced degree.

Specific requirements for entrance into certain major concentrations are in addition to the admissions requirements to graduate study in Education at the University. These are described in the sections on Course Concentrations.

CANDIDACY

It is the responsibility of the student to fulfill all candidacy requirements. His acceptance as a graduate student in a given major requires that he fulfill the following requirements:

1. File a formal application for candidacy with the Dean of the the Graduate School.
2. Pass all courses required for candidacy. (See requirements of of each major).
3. Be approved by the Department in the field of his major concentration according to Departmental norms.

THE MASTER OF ARTS DEGREE

Thirty semester hours of credit are ordinarily needed for the M.A. degree. Nine of these will be in Education 202, 205, 206 or 207. Of the remaining twenty-one, three credits are allowed for the successful completion of a thesis, a requirement of the Master of Arts degree.

At the time of candidacy for the degree, the candidate's mentor, in co-operation with the student, will plan a program of studies which,

together with the thesis, will provide a sound treatment of some area of interest. As a result of intensive work in this area, his study should be marked by sound mastery and technical accuracy. The M.A. program may entail requirements prescribed by the mentor, including those essential courses consistent with sound scholarship. The mentor's judgment in this matter is final.

The thesis required for the M.A. degree may be a research paper of suitable dimensions, a critical report of certain procedures or sectors of knowledge, or a scholarly biographical work on the Master's level.

The student, with the permission of the mentor, will register for a seminar while working on his thesis.

THE MASTER OF SCIENCE DEGREE

Thirty semester hours or more of course credit are usually required for the M.S. degree. For the M.S. there is no thesis requirement, but a scholarly paper is normally required. Some programs may permit additional course credits in lieu of the scholarly paper. The student may seek the Master of Science degree in any one of the concentrations indicated hereafter.

Before registration, the graduate student will meet with his advisor for the selection of a concentration of courses and the approval of his program of studies. About one half of the course requirements for the Correlated program will be in a subject-matter field.

While the candidate's courses within a concentration should possess flexibility, certain essential courses are required. The advisor may make substitutions in order to round out a sound program of courses, and in this matter his judgment is final.

THE COMPREHENSIVE EXAMINATION

A comprehensive examination, as prescribed by the department, is required of all candidates for a degree in education. This examination may be written, oral, or both.

APPEAL PROCEDURE

A student who is enrolled in any certification program at the University and is recommended to be dropped from the program or refused University endorsement for certification may appeal the decision. The appeal is made through the Department Chairperson to a Committee consisting of three persons; the Graduate Dean, the Department Chairperson and a person from the faculty selected by the Program Director of the Certification Program in which the student is enrolled.

MAJOR COURSE CONCENTRATIONS

Secondary Education Programs

Dr. Matthew C. Farrell, Director of Graduate Programs

Objective: To prepare the secondary school teacher in-service for more effective instruction of students.

Core - 9 credits		*Semester Hours*
Education 202	Educational Research and Literature	3
Education 205	Philosophical and Historical Bases of Education I	3
Education 206	Philosophical and Historical Bases of Education II	3
	or	
Education 207	The Sociology of Education	3
Required - 9 credits		
Education 233	Curriculum Theory and Development	3
Education 234	Improvement of Instruction in the Secondary School	3
Education 275	Psychology of Adjustment	3
Education 290	Instructional Materials for the Teaching of Reading	3
Education 295	Reading in the Content Areas	3

Programs of Correlated Studies:

No less than 15 course credits in one of the following subject fields:

Business	History and Political Science
Chemistry	Mathematics
English	Physics
General Science	Social Studies

Requirements for Candidacy:

Before applying for candidacy, the student will successfully complete four graduate courses with at least a grade of B. These four courses for candidacy will consist of two core courses and two courses from the subject matter area.

DEGREE REQUIREMENTS

Master of Arts

Thirty approved credits, comprehensive examination and a thesis.

Master of Science

Thirty-three approved credits, comprehensive examination and a scholarly paper or;

Thirty-six approved credits and a comprehensive examination.

COUNSELOR EDUCATION

Dr. Christine Herrick Hutt, Director of Graduate Program

Objectives: The preparation of secondary school counselors.

Certification as a School Counselor: Students who desire to apply for the Pennsylvania school counselor's certificate must follow the certificate sequence as approved by their advisors and receive the master's degree.

Only students of proven competency who have successfully completed the certificate sequence and degree requirements will be endorsed for certification by the University. Supervised counseling experience with secondary-school students is required for certification.

Students who are not interested in secondary school counseling may, if approved by their mentor, substitute certain other courses directed toward other objectives.

Major Concentration Entrance Requirements:

These requirements for entrance into the Counselor Education major are in addition to the entrance requirements of the Graduate School:

(1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential.
(2) A written, self-estimate of the candidate's qualifications for the position of counselor.
(3) A personal interview.

Research Sequence:		*Semester Hours*
Education 202	Educational Research & Literature	3
Education 245	Seminar: Research in Counseling	3

Counseling Sequence:		*Semester Hours*
Education 240	Theories of Counseling	3
Education 241	Group Dynamics	3
Education 242	Counseling Interview Techniques	3
Education 242.1	Utilization of Community Resources	3
Education 242.2	Family Counseling	3
Education 242.3	Behavioral Counseling	3
Education 243	Current Issues in Counseling & Guidance	3
Education 244.1	Supervised Counseling Experience: Individual	3
Education 244.2	Supervised Counseling Experience: Individual	3
Education 246	Vocational Development	3
Education 254	Use of Tests in Counseling	3

Psychological & Sociological Foundations Sequence: *Semester Hours*

Education 207	The Sociology of Education	3
Education 274	Development Psychology	3
Education 275	Psychology of Adjustment	3

Educ. 245 May be substituted for the Scholarly Paper, with mentor's permission.

Educ. 242.2 or 242.3 may be substituted for Educ. 275 with mentor's permission.

Master's Degree:

Thirty-six semester hours of credit are required for the Master's degree. A student must also satisfactorily complete the comprehensive examination and Scholarly Paper requirements.

Supervisory Certification

The University also offers an approved program for those students who desire to become certified as Guidance Supervisors or Guidance Directors in Pennsylvania. (Please consult details under Administration section.)

ELEMENTARY EDUCATION

Dr. Michael Marino, Director of Graduate Program

Objective: To prepare the elementary school teacher in-service for more effective instruction of students, and to help him or her acquire the skills and values to become a self-renewing teacher.

Phase I 6 credits		*Semester Hours*
Education 202	Educational Research and Literature	3
Education 205	Philosophical and Historical Bases of Education I	3
	or	
Education 206	Philosophical and Historical Bases of Education II	3

Phase II 6 credits		
Education 230	The Elementary School Curriculum	3
Education 231	Improving Instruction in the Elementary School	3

Phase III 18 credits (One course in reading is required.)		
Education 230.1	Current Issues in Elementary Education	3
Education 230.2	Personalizing Education	3
Education 280	Open Education	3
Education 280.1	Workshop in Open Education	3
Education 281	Individualizing Instruction	3
Education 283	Children's Literature in the Elementary School	3
Education 284	Seminar in the Language Arts: Reading, Writing, Speaking, and Listening	3
Education 285	The Analysis of Research Studies in Language Arts	3
Education 286	Selected Problems in Elementary School Mathematics	3
Education 286.1	Seminar in Elementary School Mathematics	3
Education 287	Selected Problems in Elementary School Social Studies	3
Education 287.1	Seminar in Elementary School Social Studies	3
Education 288	Selected Problems in Elementary School Science	3

Education 288.1 Seminar in Elementary School Science 3
Education 289 Workshop in Elementary Education 3
Education 289.1 Workshop in Teaching Values 3
Education 289.2 Workshop in Parent Involvement 3
Education 290 Instructional Materials for the Teaching of Reading 3
Education 291 Foundations of Reading Instruction 3
Education 292 Psycholinguistic Implications for the Teaching of Reading 3
Education 293.3 Classroom Diagnosis of Reading Problems 3

A student may select courses other than those listed in Phase III provided that they are part of an integrated program and the student has permission from his or her mentor.

Requirements for Candidacy:

The student must complete one course from Phase II and six other credits before applying for candidacy.

DEGREE REQUIREMENTS

There are three alternative ways to earn a master's degree in elementary education.

Master of Arts

The student completes the thirty credits, passes the comprehensive examination and completes a thesis.

Master of Science

A. The student completes thirty credits, passes the comprehensive examination and completes a scholarly paper. paper.

B. The student completes thirty-six credits, takes the comprehensive examination but is not required to do a scholarly paper.

SPECIAL GRADING OPTION

Elementary Education students may elect to be graded either by the traditional marking system or by the pass-fail system in selected courses. The traditional marking system is described in the beginning section of this catalogue. The pass-fail system is as follows: P means average or above-average achievement (P replaces A, B+ and B of the traditional marking system), C, I, and F are other symbols used and mean the same in both systems.

The instructor designates whether his course is to be selected for student choice of marking systems, and in those selected courses, the studen tregisters his choice of marking system with the instructor at the beginning of the semester.

ADMINISTRATION

(Elementary and Secondary)

Dr. Thomas W. Gerrity, Director of Graduate Programs

Objectives: The preparation of elementary and secondary school principals.

Major Concentration Entrance Requirements:

These requirements for entrance into the Administrative major are in addition to the entrance requirements of the Graduate School:

(1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential.
(2) A written self-estimate of the candidate's qualifications for the position of principal.
(3) A personal interview.

Core Courses for Candidacy:		*Semester Hours*
Education 202	Educational Research and Literature	3
Education 205	Philosophical and Historical Foundations of Education I	3
Education 221	Educational Administration	3

The Master's Degree:

A student will be recommended for a Master of Science degree in School Administration after satisfactory completion of courses required in Phase I and Phase II, a Practicum, and four other courses from Phase III and IV as approved by the mentor, passed a Comprehensive Examination in School Administration, and filed an approved scholarly paper sixty days before graduation.

Certification as a Principal:

Normally, a student with no administrative background is required to complete 48 credits (16 courses) in order to meet the competencies necessary for administrative certification. (This normally includes a master's degree provided in Phases I through IV.) Upon evidence of mastery of the competencies, the candidate may be recommended to the Pennsylvania Department of Education for certification as an Elementary or a Secondary School Principal.

A person who has an earned master's degree from an approved institution and who has met the entrance requirements may be admitted into the certification program as a Special Student (see page 8).

Secondary Administration

Phase I - Four Courses (For Degree or Certification)

		Semester Hours
Ed. 202*	Educational Research and Literature	3
Ed. 205*	Philosophical & Historical Foundations of Education I	3
Ed. 206	Philosophical & Historical Foundations of Education II	3
Ed. 207	The Sociology of Education	3
Ed. 221*	Educational Administration	3

Phase II - Three Courses (For Degree or Certification)

Ed. 225*	The Secondary School Principal as Administrator	3
Ed. 226	Administration and Organization of the Middle School	3
Ed. 233*	Curriculum Theory and Development	3
Ed. 234	Improvement of Instruction in the Secondary School	3
Ed. 235*	The Secondary School Principal as Supervisor	3
Ed. 237	Principles and Practices of Supervision	3

(Other courses listed may be substituted for required courses with mentor's permission.)

Phase III - Elective: Two Courses for Degree, Three for Certification

S.S. 400	Ethnic Experience	3
Ed. 241	Group Dynamics	3

(Other courses may be selected in consultation with the mentor.)

Phase IV - Three Courses for Degree, Six for Certification

Ed. 222.1	Problems in School Administration and Supervision	3
Ed. 222.2	Public Relations for Educators	3
Ed. 222.3	Personnel Management for Educators	3
Ed. 222.4**	School Finance	3
Ed. 222.5	School Plant Management	3
Ed. 222.6	School & Community Relations	3
Ed. 222.7***	Practicum in School Administration	3-6
Ed. 222.8**	School Law	3
Ed. 223	Educational Management	3

**Required for Degree and Certification*

***Required for Certification Only*

****One Semester of Ed. 222.7 Required for Degree; a Second Semester of Ed 222.7 Required for Certification*

NOTE: In certain circumstances Ed. 226 and Ed. 237 may be used in Phase IV.

Elementary Administration

Phase I - Four Courses (For Degree or Certification)

		Semester Hours
Ed. 202*	Educational Research and Literature	3
Ed. 205*	Philosophical & Historical Foundations of Education I	3
Ed. 206	Philosophical & Historical Foundations of Education II	3
Ed. 207	The Sociology of Education	3
Ed. 221*	Educational Administration	3

Phase II - Three Courses (For Degree or Certification)

Ed. 224*	The Elementary School Principal as Administrator	3
Ed. 226	Administration and Organization of the Middle School	3
Ed. 232*	The Elementary School Principal as Supervisor	3
Ed. 233*	Curriculum Theory and Development	3
Ed. 237	Principles and Practices of Supervision	3

(Other courses listed may be substituted for required courses with mentor's permission.)

Phase III - Elective: Two Courses for Degree, Three for Certification

S.S. 400	Ethnic Experience	3
Ed. 241	Group Dynamics	3

(Other courses may be selected in consultation with the mentor.)

Phase IV - Three Courses for Degre, Six for Certification

Ed. 222.1	Problems in School Administration and Supervision	3
Ed. 222.2	Public Relations for Educators	3
Ed. 222.3	Personnel Management for Educators	3
Ed. 222.4**	School Finance	3
Ed. 222.5	School Plant Management	3
Ed. 222.6	School & Community Relations	3
Ed. 222.7***	Practicum in School Administration	3-6
Ed. 222.8**	School Law	3

**Required for Degree and Certification*
***Required for Certification Only*
****One Semester of Ed. 222.7 Required for Degree; a Second Semester of Ed. 222.7 Requirer for Certification*

NOTE: In certain circumstances Ed. 226 and Ed. 237 may be used in Phase IV.

SUPERVISION

(Elementary and Secondary)

Dr. Thomas W. Gerrity, Director

Objectives: The preparation of elementary and secondary school subject supervisors. The supervisory credential may be pursued in School Guidance Services, Foreign Languages, Reading, Mathematics, Biology, Chemistry, Physics, Social Studies, Science and Communication.

Major Concentration Entrance Requirements:

The candidate must meet the following requirements prior to acceptance into the Supervisory program:

(1) possess adequate competency in the subject to be supervised.

(2) possess a valid teacher's certificate for the area of concentration.

(3) complete an application for the graduate school.

Course Requirements:

A student with no supervisory background is required to complete a minimum of 24 credits in order to satisfy the competency requirements for supervisory certification. For a student possessing some competencies, the program of studies and activities is determined by the mentor, by means of a competency needs analysis.

The following courses are normally required:		*Semester Hours*
Ed. 202	Educational Research and Literature	3
Ed. 222.1	Problems in School Admnistration and Supervision	3
Ed. 222.4	School Finance	3
Ed. 222.8	School Law	3
Ed. 223	Educational Management	3
Ed. 233	Curriculum Theory and Development	3
Ed. 237	Principles and Practices of Supervision	3
Ed. 238	Practicum in Supervision	3
Ed. 241	Group Dynamics	3

Upon completion of the program and the satisfactory performance on the comprehensive examinations, the student will be recommended by the University to the State Department of Education for certification as a supervisor.

READING

Dr. Raymond L. Kimble, Director of Graduate Program

MASTER'S DEGREE PROGRAM

Candidates for the degree of Master of Science in Reading may select a scholarly paper or non-scholarly paper program.

Scholarly Paper Program:

The Master of Science scholarly paper program will require the student to complete successfully 30 credits, 24 of which are required. A student will be recommended for the Master of Science degree in Reading when he/she has successfully completed 30 semester hour credits as approved by his/her mentor, passed a written comprehensive examination, and filed an approved scholarly paper.

Core Courses for Candidacy		*Semester Hours*
Education 274	Developmental Psychology	3
Education 291	Foundations of Reading Instruction	3
Education 292	Psycholinguistic Implications for the Teaching of Reading	3
	Required	9

Required Courses		*Semester Hours*
Education 202	Educational Research and Literature	3

or

Education 299	Seminar in Reading Research	3
Education 293.1	Diagnosis of Reading Disabilities	3
Education 294	Practicum in Reading	3
Education 296	Organization and Operation of Reading Programs	3
Education 297	Reading in the Secondary Schools	3
	Required	15

Non-Scholarly Paper Program:

The Master of Science non-scholarly paper requires the student to complete successfully 36 credits. The same 24 credits that are required for the Master of Science scholarly paper program are required for the Master of Science non-scholarly paper program.

A student will be recommended for the Master of Science degree in Reading when he/she has successfully completed 36 semester hours as approved by his/her mentor and passed a written comprehensive examination.

Certification Program in Reading:

Students enrolled in a Master of Science in Reading program and students simply desiring to meet Reading Specialist Certification requirements will be recommended, upon request, for the Pennsylvania Reading Specialist Certificate after successfully completing the following 24 credits and passing a competency examination. (Students in a Master of Science in Reading program who have passed the comprehensive examination do not have to take the competency examination.)

Required Courses		*Semester Hours*
Education 202	Educational Research and Literature	3
	or	
Education 299	Seminar in Reading Research	3
Education 272	Human Development and Learning	3
Education 274	Developmental Psychology	3
Education 291	Foundations of Reading Instruction	3
Education 292	Psycholinguistic Implications for the Teaching of Reading	3
Education 293.1	Diagnosis of Reading Disabilities	3
Education 294	Practicum in Reading	3
Education 296	Organization and Operation of Reading Programs	3
Education 297	Reading in the Secondary School	3
	Required	24

To be recommended for the Pennsylvania Reading Specialist Certificate, the student must be a certified teacher in Pennsylvania.

Reading Supervisor:

The University offers an approved program for those students desiring to become certified as a Reading Supervisor in Pennsylvania. (Please see description under Supervision section.)

MATHEMATICS EDUCATION

Prof. Bernard J. Johns
Coordinator of Graduate Program

Objective:

To prepare the secondary school teacher in-service for more effective instruction of students in mathematics.

Prerequisite:

Satisfactory fulfillment of all admission criteria for studies in the in the Department of Education.

Core - 9 credits		*Semester Hours*
Education 202	Educational Research and Literature	3
Education 205	Philosophical and Historical Bases of Education I	3
Education 206	Philosophical and Historical Bases of Education II	3

or

Education 207	The Sociology of Education	3

Required - 9 credits

Education 233	Curriculum Theory and Development	3
Education 234	Improvement of Instruction in the Secondary School	3
Education 275	Psychology of Adjustment	3
Education 290	Instructional Materials for the Teaching of Reading	3
Education 295	Reading in the Content Areas	3

Elective Courses:

Math. 404	Modern Algebra for Teachers	3
Math. 405	Linear Algebra and Theory of Equations	3
Math. 406	Introductory Analysis	3
Math. 407	Geometry	3
Math. 408	Probability and Statistics	3
Math. 409	Introduction to Computing	3

Kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Secondary Education for application procedures and degree requirements.

SOCIAL STUDIES

Dr. John L. Earl, III
Coordinator of Graduate Program

Objective:

To prepare the secondary school teacher in-service for more effective instruction of students in social studies.

Prerequisite:

Satisfactory fulfillment of all admission criteria for studies in the Department of Education.

Core - 9 credits		*Semester Hours*
Education 202	Educational Research and Literature	3
Education 205	Philosophical and Historical Bases of Education I	3
Education 206	Philosophical and Historical Bases of Education II	3
	or	
Education 207	The Sociology of Education	3

Required - 9 credits

Education 233	Curriculum Theory and Development	3
S.S. 237.1	Teaching of History and Social Science	3
Education 275	Psychology of Adjustment	3
Education 290	Instructional Materials for the Teaching of Reading	3
Education 295	Reading in the Content Areas	3

Elective Courses:

S.S. 400	The Ethnic Experience	3
S.S. 402	Contemporary World: An Age of Controversy	3
S.S. 403	Today's "Isms": Fascism, Socialism, Communism, Democracy	3
S.S. 405	World Politics: Peace, War and Diplomacy in Modern Age	3
S.S. 406	The Third World: Asia, Africa, Latin America and Middle East	3
S.S. 408	Cultural Geography	3
S.S. 409	Comparative Religions	3
S.S. 410	Social Setting of Economics	3
S.S. 411	Comparative World Cultures	3
S.S. 412	Contemporary American Problems	3
S.S. 420	Military Power in the 20th Century	3

Kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Secondary Education for application procedures and degree requirements.

COURSE DESCRIPTIONS

FOUNDATIONS OF EDUCATION

Education 202. *Educational Research and Literature* *3 credits*
This is a basic course concerned with the nature of research problems in education. Is is intended to introduce students to the basic principles of research; the more frequently employed research methodologies; the conceptualization of research problems in education; the formulation of hypotheses; and the study of selected data-gathering instruments.
A research project is required, wherein, the students will gain a facility in the critical analyses of research material essential to their graduate studies.

Education 205. *Philosophical and Historical Bases of Education I* *3 credits*
This course considers in the tradition of philosophy the fundamental problems of the nature of man, the child, the parent, the school, and society. The aims of education in society and their consequences in rights and duties are the most salient problems.

Education 206. *Philosophical and Historical Bases of Education II* *3 credits*
The second course studies the history of education formally. After a brief overview of the classical, patristic, and medieval periods, major attention is given to education in the twentieth century, especially in the United States.

Education 207. *The Sociology of Education* *3 credits*
The sociology of education is oriented toward understanding the social influences on learning. The socialization of the child, social structure in American society, social mobility, the school as an agency of socialization, social problems especially germane to the school such as delinquency, population and racial integration, the social role of the teacher, the school and its sociological environment will be the areas of special concern.

ADMINISTRATION

Education 221 - *Educational Administration* *3 credits*
A foundations course in general school administration, involving philosophical bases, organization in a democratic society, administration of instruction and personnel. Required of all students beginning a major in educational administration and a prerequisite for other courses in educational administration.

Education 222.1 - *Problems in School Administration and Supervision* *3 credits*
A seminar for the student seeking certification in elementary or secondary school administration or in supervision. Emphasis is upon in-depth examination of a selected problem or issue in administration or supervision. (Admission with approval of the instructor.)

Education 222.2 - *Public Relations for Educators* *3 credits*
An introduction to school public relations. Emphasis is focused upon establishing contact between schools and the general public through the use of mass media.

Education 222.3 - *Personnel Management for Educators* *3 credits*
An overview of the establishment and performance of personnel policies as they relate to recruitment, selection, orientation, deployment, promotion, evaluation, in-service development, morale, and dismissal. Admission with consent of instructor.

Education 222.4 - *School Finance* *3 credits*
An introduction to public school finance. Emphasis is focused upon the responsibilities in handling student funds, district budgeting and accounting, and modern planning - programming - budgetary systems. Admission with consent of instructor.

Education 222.5 - *School Plant Management* *3 credits*
A study of problems involved in the planning, operation, and maintenance of school plant facilities. Emphasis is upon efficient use of existing plant facilities and their possible adaptations to meet modern educational and community needs. Admission with consent of instructor.

Education 222.6 - *School and Community Relations* *3 credits*
A study of the relationship of the school to the community. Emphasis is focused upon the school-community concept, community analysis, community characteristics affecting quality education, and public participation in educational planning. Admission with consent of instructor.

Education 222.7 - *Practicum in School Administration* *3 credits*
The purpose of this course is to give the student practical experience in administrative work. A minimum of 90 clock hours in one semester must be spent on this work. Work is done under supervision in a local school system according to a definite schedule approved by the instructor and the administrator of the school system involved. Admission by special arrangement. (Normally offered Fall and Spring semesters only.) (Admission with approval of instructor.)

Education 222.8 - *School Law* *3 credits*
A study of common law legislative enactments and directives of the Pennsylvania Department of Education as they pertain to the Pennsylvania School System.

Education 222.9 - *Seminar in Advanced School Law* *3 credits*
A comprehensive study of legal issues related to the operation of the nation's schools. Special emphasis is placed on issues in Pennsylvania school law that may affect the nation and substantially alter the course of education. (Admission with approval of the instructor.)

Education 223 - *Educational Management* *3 credits*
An overview of functions and problems in three major areas of responsibility: finance, law, and personnel.

Education 224 - *The Elementary School Principal as Administrator* *3 credits*

A technical course emphasizing the administrative duties and responsibilities of the elementary school principal. Attention is focused on types of organization, program, studies, pupil progress, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 225 - *The Secondary School Principal as Administrator* *3 credits*

A technical course emphasizing the administrative duties and responsibilities of the secondary school principal. Attention is focused on problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Education 221)

Education 226 - *Administration and Organization of the Middle School* *3 credits*

A technical course emphasizing the organizational and administrative duties and responsibilities of the middle school principal. Attention is focused on the problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite, Ed. 221)

CURRICULUM, INSTRUCTION & SUPERVISION

Education 230 - *The Elementary School Curriculum* *3 credits*

An investigation of curriculum theory as applied to classroom practice. Students will have an opportunity for serious study of the basic considerations necessary in providing a meaningful teaching-learning environment for children in a changing world.

Education 230.1 - *Current Issues in Elementary Education* *3 credits*

Students in this course will have an opportunity to study and review the current research on pertinent issues in the education of children.

Education 230.2 - *Personalizing Education* *3 credits*

Students in this course will have an opportunity to study and utilize practical classroom approaches to personalize human relationships, instruction, curriculum, classroom organization and management.

Education 231 - *Improving Instructions in the Elementary School* *3 credits*

Students will study a wide spectrum of techniques and strategies to improve classroom instruction and enhance learning. Emphasis will be on practical classroom applications.

Education 232 - *The Elementary School Principal as Supervisor* *3 credits*

Methods and techniques in the supervision of the elementary school with the objective of improvement of teaching and learning in terms of modern objectives and methods.

Education 233. - *Curriculum Theory and Development* *3 credits*
Principles of curriculum construction which underlie the reorganization of the program of studies for elementary and secondary schools, sources of the curriculum, methods of organization, structure of knowledge, and curriculum planning and development.

Education 233.1 - *Seminar in Curriculum Issues* *3 credits*
An examination of the prevailing conceptual approaches to the study of curriculum. Issues for inquiry and research are identified. The student is required to conduct an independent project related to a particular curriculum issue. (Admission with approval of the instructor.)

Education 234 - *Improvement of Instruction in the Secondary School* *3 credits*
Secondary general methods with emphasis on current procedures, theories and practice. Such topics as classroom atmosphere, teacher-pupil behavior patterns, teaching skills, pupil-teacher planning, inquiry, communication, logic in teaching and teaching the process of learning. Other topics will be introduced as interest of the group and time allows.

Education 235 - *The Secondary School Principal as Supervisor* *3 credits*
A technical course emphasizing the duties and responsibilities of the secondary school principal in the role of a supervisor of instruction. Attention is focused upon methods and techniques of supervision with the objective of improvement of teaching and learning in terms of modern objectives and methods.

Education 237 - *Principles & Practices of Supervision* *3 credits*
A description of a philosophy of supervision, principles of supervision, the role of the supervisor, planning a supervisory program, techniques of supervision, evaluation, coordinating the instructional program, and trends in supervision.

Educ./S.S. 237.1 - *Teaching of History and Social Studies* *3 credits*
A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Educ./Engl. 237.2 - *Teaching of English Literary Types in Secondary Schools* *3 credits*
Narrative and lyric poetry types, prose types, and drama. Techniques of methodology and organizational patterns are suggested. Listed under Education courses, this offering is taught by the Department of English.

Education 238 - *Practicum in Supervision* *3 credits*
The purpose of this course is to give the student practical experience in supervision. A minimum of 90 clock hours in one semester must be spent on this assignment. This is accomplished under the supervision of a certified supervisor, according to a definite schedule mutually approved by the instructor and cooperating supervisor. (Admission with approval of instructor.)

Education 280 - *Open Education* *3 credits*
An intesive study of what open education is all about. Emphasis will be on the British and American open classrooms compared to the classrooms of teachers in this area.

Education 280.1 - *Workshop in Open Education* *3 credits*
This course affords students an opportunity to develop practical ways to apply open education concepts to their classroom situation.

Education 281 - *Individualizing Instruction* *3 Credits*
An analysis of theory and practice of individualizing instruction. Practical approaches will be emphasized.

Education 283 - *Children's Literature in the Elementary School* *3 credits*
Literature for children from kindergarten through the elementary school years. Children's literary needs and interests will be emphasized.

Education 284 - *Seminar in the Language Arts: Reading, Writing, Speaking and Listening* *3 credits*
Focus is on the place of the language arts in the total elementary school curriculum. Topics included are integration of reading, writing, speaking and listening; correlation of these four areas of the language arts with the content subjects; and a consideration of innovative spelling and handwriting programs.

Education 285 - *The Analysis of Research Studies in Language Arts* *3 credits*
This course is concerned with a critical analysis of the research evidence in the language arts and an examination of the underlying theoretical issues. Representative experimental, corelational and clinical studies will be evaluated in terms of their design, statistical tests employed and the relationship between specific findings and general conclusions.

Education 286 - *Selected Problems in Elementary School Mathematics* *3 credits*
Students will study selected topics, problems and recent developments relevant to the elementary mathematics curriculum and instruction.

Education 286.1 - *Seminar in Elementary School Mathematics* *3 credits*
The major emphasis of this seminar will be individual action research projects in elementary school mathematics to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth.

Education 287 - *Selected Problems in Elementary School Social Studies* *3 credits*
Students will study selected topics, problems, and recent developments in the elementary social studies curriculum and instruction.

Education 287.1 - *Seminar in Elementary School Social Studies* *3 credits*

The major emphasis of this seminar will be indivdual action research projects in the social studies to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth.

Education 288 - *Selected Problems in Elementary School Science* *3 credits*

Students will study selected topics, problems and recent developments in the elementary science curriculum and instruction.

Education 288.1 - *Seminar in Elementary School Science* *3 credits*

The major emphasis of this seminar will be individual action research projects in elementary science to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth. (Prerequisites, Educ. 202, 231)

Education 289 - *Workshop in Elementary Education* *3 credits*

Students will have the opportunity to develop and test innovative curriculum materials and strategies with special emphasis on models for individualizing instruction.

Education 289.1 - *Workshop in Teaching Values* *3 credits*

A course designed for students to become acquainted with areas of value teaching. It includes theory and value strategies for the classroom.

Education 289.2 - *Workshop in Parent Involvement* *3 credits*

This course is designed to facilitate teacher-parent involvement in the total learning process of children. Emphasis will be placed upon parent-teacher-child communication, activities for parent participation, and school-home relationships.

RESEARCH

Education 300 - *Research Seminar* *Variable to 3 credits*

Designed for students who are working on their M.A. thesis. Registration is only with permission of the student's advisor and the Departmental Chairman.

Education 300.1 - *Directed Study* *Variable to 6 credits*

This course is designed for students working in independent study on special projects and workshops. Registration in this course requires permission of the student's mentor, and the Departmental Chairman.

READING

Education 290 - *Instructional Materials for the Teaching of Reading* *3 credits*

A comprehensive survey of materials, resources and devices used to teach reading in the elementary and secondary schools. Emphasis will be placed on traditional and current trend materials, laboratory kits, teacher made devices and instructional media.

Education 291 - *Foundations of Reading Instruction* *3 credits*

A basic course in the foundation of reading designed to provide an introduction to reading instruction and reading programs. A study of the

reading skills, techniques and methods which are essential for effective reading will be examined.

Education 292 - *Psycholinguistic Implications the Teaching of Reading* *3 credits*
A course designed to acquaint students with theories of the reading process as they relate to children's language acquisition and learning to read. Consideration will be given to the linguistic aspects of teaching reading. (Prerequisite - Educ. 291 or consent of Instructor)

Education 293.1 - *Diagnosis of Reading Disabilities* *3 credits*
A laboratory course designed to assist the reading specialist in becoming proficient in diagnostic skills. Standardized tests and informal assessment instruments will be examined. The student will be required to prepare a Diagnostic Case Report on a student experiencing difficulty in reading. Selected assessment tools will be identified to recommend as appropriate for use by the classroom teacher. (Prerequisite Education 292 or consent of Instructor.)

Education 293.2 - *Learning Disabilities and the Reading Process* *3 credits*
A course designed to acquaint students with the effects learning disabilities have on the reading process. An evaluation of the resources utilized in identifying the disabled learner will be made. The techniques of correction associated with the treatment of the disabled learner will be examined.

Education 293.3 - *Classroom Diagnosis of Reading Problems* *3 credits*
The course Classroom Diagnosis of Reading Problems is designed to examine formal and informal techniques of diagnosis appropriate for use by the classroom teacher. Consideration will be given to identifying skill deficiencies exhibited by students experiencing reading problems. An examination of appropriate diagnostic techniques will be made. Interpretation of the assessment material will be made to determine their effectiveness for specific situations.

Education 294 - *Practicum in Reading* *3 credits*
An instructional internship for the reading specialist designed to provide a supervised instructional experience. The student is expected to assess, and initiate a reading program and report the results of the individualized instructional program. Appropriate materials, techniques and methods are examined and utilized during the internship. (Prerequisite Education 293.1 or consent of Instructor)

Education 295 - *Reading in the Content Areas* *3 credits*
A course designed for acquainting students with procedures of teaching functional reading skills in the elementary and secondary schools. Emphasis will be placed on the specialized vocabularies, concepts and skills which are considered necessary for the comprehension of reading materials pertinent to content area subjects. Various resources and devices will be examined.

Education 296 - *Organization and Operation of Reading Programs* *3 credits*
A lecture-discussion course dealing with the responsibilities of the reading

specialist in setting up and directing a school reading program. Attention is given to types of programs and approaches to teaching reading in these different organizational patterns as well as incorporating procedures to support the regular classroom program. (With permission of the instructor).

Education 297 - *Reading in the Secondary Schools* *3 credits*
A course designed to apprise prospective reading specialists or classroom teachers of practices and techniques of teaching reading in the secondary schools. Consideration will be given to the problems of teaching reading to the secondary school student. (Prerequisite - Educ. 292 or consent of Instructor).

Education 299 - *Seminar in Reading Research* *3 credits*
A course in which reading studies will be investigated in depth. Critical evaluations of journal articles will be made. The pedagogy and psychology of reading will be examined. The course is designed for advanced graduate students in reading. (Consent of instructor)

COUNSELOR EDUCATION

Educ. 240 - *Theories of Counseling* *3 credits*
Various counseling theories will be presented. Emphasis will be upon evaluating the various theories and abstracting parts of these theories into a comprehensive overview of the counseling process. Required in certificate program as part of the sequence.

Educ. 241 - *Group Dynamics* *3 credits*
A basic understanding of group dynamics and behavior is provided. Processes and patterns of interaction are analyzed primarily from the standpoint of their broad educational significance. The selection, evaluation and use of group counseling methods and materials are discussed. Methods of developing and organizing group programs are also presented. Students also participate in a group experience. Required in the certificate program as part of the sequence.

Educ. 242 - *Counseling Interview Techniques* *3 credits*
This course deals with the application of counseling theory to the practical interview situation. The counseling process and the core elements of a facilitative counseling relationship will be examined. Counselor candidates will begin to develop basic interviewing skills. Required in the certificate program.

Educ. 242.1 - *Utilization of Community Resources* *3 credits*
This course examines in detail the role of the counselor in relation to various agencies in the community. Criteria for referral and the referral process are described in depth as are the various aspects of collaboration and cooperation between school and community. Existing community resources are examined and representatives of various agencies present information about their services. Prerequisite: Permission of the Instructor.

Educ. 242.2 - *Family Counseling* *3 credits*
Family Counseling theory and techniques are presented with special emphasis upon how they might be utilized by secondary school counselors. Although several conceptual models will be explored, the primary focus

will be upon a Structural approach to family counseling. Prerequisite: Education 240, 241, 242 and permission of the Instructor.

Educ. 242.3 - *Behavioral Counseling* *3 credits*
Behavioral counseling theory and techniques are presented with special emphasis upon how they might be utilized by secondary school counselors. Basic assumptions, data-recording methods, and ethical concerns are considered. Contingency contracting and self-control methods will be included. Prerequisites: Educ. 240, 241, 242 and permission of the Instructor.

Educ. 243 - *Current Issues in Counseling and Guidance* *3 credits*
This is a professional seminar wherein emphasis is placed upon the development of a sensitivity to the educational, sociological and philosophical implications of the counselor's role. This course is designed to provide for a smooth transition to the role of school counselor. Included in the course is a consideration of current ethical, legal, and professional development issues. Required of all counselor education trainees.

Educ. 244.1 - *Supervised Counseling Experience* *3 credits*
This course consists of the actual counseling of secondary school students under supervision. A variety of experiences are provided for individual counseling, usually on campus. Required in the certificate program. Admission is only by consent of instructor.

Educ. 244.2 - *Supervised Counseling Experience* *3 credits*
Actual counseling of secondary school students under supervision occurs in this course. A variety of experiences are provided for individual counseling and other counselor-related activities, usually on site. Required in the certificate program. Admission is only by consent of the instructor and the satisfactory completion of Educ. 244.1.

Educ. 244.3 - *Supervised Counseling Experience: Group* *3 credits*
Under supervision, secondary school students are counseled in groups. A variety of experiences are provided for group guidance and group counseling. Admission is only by consent of the instructor and the satisfactory completion of Educ. 244.1.

Educ. 245 - *Research Seminar in Counseling* *3 credits*
This course is intended to help students develop and further refine those skills necessary for understanding and conducting research studies. In addition to various research methodologies, the use of resources, e.g. general reference works, computer center, etc. will be presented. The primary emphasis will be upon current research in counseling and related fields.

Educ. 246 - *Vocational Development* *3 credits*
Psychological and sociological aspects of vocational choice and vocational adjustment will be presented and major theories of vocational development will be reviewed. Emphasis will be placed upon methods and resources for facilitating career development throughout the lifespan. Career

education, computerized information systems, and decision-making methods will be considered along with innovative approaches for special needs populations.

Educ. 254 - *Use of Tests in Counseling* *3 credits*
Emphasis will be placed upon the development of competency in the evaluation, use, and interpretation of tests and inventories used in assessing abilities, achievement, interests and personality. The relationship of informal data to the analysis of individual behavior will be included. Selected instruments will be examined in terms of their design and appropriate utilization in the secondary school program.

Educ. 255 - *The Counselor and Values* *3 credits*
This course consists of an in-depth study of values as they relate to the secondary school counselor. Emphasis will be placed upon both the theoretical and practical aspects of value development.

Educ. 274 - *Developmental Psychology* *3 credits*
This is an intensive treatment of psychosocial and biological aspects of human development with special emphasis on the implications for the counseling of secondary school students. Recommended for the certificate.

Educ. 275 - *Psychology of Adjustment* *3 credits*
This course provides an understanding of adjustive behavior, including the discrimination of normal from abnormal behavior and a thorough understanding of sources of stress and stress management. Attention is given to factors that influence behavior with special attention to adjustment problems of secondary school students. Recommended in the certificate program and must be preceded by Education 274 or the equivalent.

MATHEMATICS

Math 404 - *Modern Algebra for Teachers* *3 credits*
A treatment of groups, rings, etc. culminating in the negative result, Abel's Theorem, that there can be no formula for solving polynomial equations of degree greater than four. Wherever possible, the material shall be related to the various subsets of the real number system covered in the secondary schools.

Math 405 - *Linear Algebra and Theory of Equations* *3 credits*
A study of second, third and fourth degree equations and systems of equations. Along with the methods of solution, an attempt will be made to provide the teacher with a backlog of applications for each type in the form of word problems.

Math 406 - *Introductory Analysis* *3 credits*
An indepth study of the concepts and principles of calculus that are generally encountered in a secondary school analysis course. Emphasis will be placed on the development of the concepts of limit, derivative and integral and the various techniques a teacher might utilize in presenting them to a secondary school class. The student need not presently possess facility with calculus as this will develop during the course.

Math 407 - *Geometry* *3 credits*
A study of Euclidean geometry including a discussion of methods and materials that teachers may employ in order to generate interest and enhance presentations. Wherever possible, relevant practical applications will be provided. A discussion of certain transformations will also be included.

Math 408 - *Probability and Statistics* *3 credits*
An axiomatic approach to probability covering the basic rules, independence and conditional probability, probability functions, normal curve and hypothesis testing.

Math 409 - *Introduction to Computing* *3 credits*
A discussion of various secondary school problem solving techniques which involve the use of computers.

SOCIAL STUDIES

S.S. 400 *The Ethnic Experience* *3 credits*
Immigration to America, early ethnic groups in Northeastern Pennsylvania, coal mining in the anthracite belt.

S.S. 402 *Contemporary World: An Age of Controversy* *3 credits*
A detailed examination and analysis of the major problems which have continually confronted the world in modern times, such as the world environmental quality, violence and international terrorism, hunger and world inflation.

S.S. 403 *Today's "Isms": Fascism, Socialism, Communism, Democracy* *3 credits*
A detailed examination, discussion and interpretation of the leading political and economic ideologies that have affected the world in modern times.

S.S. 405 *World Politics: Peace, War and Diplomacy in Modern Age* *3 credits*
An analysis of contemporary world politics focusing on the political, diplomatic, economic and military aspects of international issues.

S.S. 406 *The Third World: Asia, Africa, Latin America and Middle East* *3 credits*
A study of the major problems and rising aspirations of the so-called underdeveloped and developing nations in the world today.

S.S. 408 *Cultural Geography* *3 credits*
A consideration of the influence of geography on the origins, structure and spread of the developing cultures.

S.S. 409 *Comparative Religions* *3 credits*
A detailed examination of the major religious movements including Buddhism, Christianity, Hinduism, Judaism, Moslemism.

S.S. 410 *Social Settings of Economics* *3 credits*
A study of the economic philosophies, industrial organization and economic power of modern time.

S.S. 411 *Comparative World Cultures* *3 credits*
A comparative study of Western and non-Western cultures, including a survey of representative ethnographies of both traditional and contemporary societies.

S.S. 412 *Contemporary American Problems* *3 credits*
An examination of topical issues in American society, organized to stress those values which are the antithesis of the major problems bringing stress, conflict and suffering to American society today.

S.S. 420 *Military Power in the 20th Century* *3 credits*
A study of the role of military force in international relations and the impact of the military and war upon domiestic society in modern times.

GRADUATE - UNDERGRADUATE COURSES

Political Science 407 - *Public Administration* *3 credits*
Nature of public administration; structures and statutory limitations; staff organization and flow of command; employment policies, personnel training and management; employee organization; public relations.

Sociology 404 - *Cultural Anthropology* *3 credits*
Study and comparison of the learned, shared and transmitted behavior patterns and ideals by which man has worked out his social relations, dealt with his environment and defined his place in the world.

Sociology 406 - *Community Organization* *3 credits*
A general introduction to the field and process of community organization, both as a field of social work, and as a field of human endeavor. The coordination and financing of welfare activities, methods of appraising community needs and resources, planning and the initiation of welfare services. Services of a voluntary and governmental nature.

Sociology 411 - *Urban Sociology* *3 credits*
A sociological analysis of the development and effects of modern urbanization on human institutions, population trends and social relationships. The interrelationships, form, structure and organized life in cities, patterns of urban structure and cities of the future. The role of politics, social agencies and elements making for organization and disorganization. Urban planning and redevelopment.

Sociology 413 - *Juvenile Delinquency* *3 credits*
Juvenile delinquency as a social problem. Methods of treatment and prevention, including juvenile courts, clinics, probation, parole, correctional institutions, child placement and recreational programs.

Sociology 414 - *American Minority Groups* *3 credits*
A study of the cultural background, distribution, assimilation and other adjustments of minority groups; problems arising from the contacts of these people who dfifer as to race and culture. Prejudice and discrimination as opposed to the democratic ideology will be considered.

DEPARTMENT OF HUMAN RESOURCES

Joseph A. Szuhay, Ph. D., CRC, Chairman

GENERAL INFORMATION

The Department offers coursework leading to Master of Science degrees in Rehabilitation Counseling, Human Resources Administration, an 18 credit Certificate of Achievement program in Human Resources Administration, and a special 63 graduate credit program leading to M. S. degrees in both Rehabilitation Counseling and Human Resources Administration.

The applicant for admission to all Departmental programs must possess the baccalaureate degree from an accredited college or university and provide the Departmental Admissions Committee with evidence of satisfactory undergraduate preparation. A minimum undergraduate quality point average of 2.6 on the four-point scale is necessary for admission. A personal interview with the Director of Graduate Studies is required of all applicants.

After admission to a Departmental program and successfully completing the core courses for candidacy for degree in the respective program, the student must file an application for candidacy for degree. A comprehensive examination is required of all degree candidates and the student must submit said application for comprehensive examination at the times specified below. Submission of a scholarly paper at least 60 days prior to the student's graduation date is required of all students. Finally, the student must file an application for degree during the semester in which they intend to graduate. It is the student's responsibility to submit all forms to the Director of Graduate Studies at the appropriate times as specified in the respective programs.

REHABILITATION COUNSELING

John K. Stout, D.Ed., CRC, Director, Graduate Studies

Objective:

To prepare rehabilitation counselors and related professional personnel.

PROFESSION

The rehabilitation counselor is an intervention specialist who either delivers or arranges to deliver therapeutic services to a variety of handicapped persons to assist the individual reach mutually agreed upon goals. The specific roles and functions of the rehabilitation counselor, the services provided, and the goals established will vary de-

pending on the agency or organization in which the counselor is employed. In the typical state-federal vocational rehabilitation agency, medically, mentally, emotionally, or socially handicapped individuals are provided a variety of psychological, medical, social, and vocational services to assist the person achieve independence in living and in becoming competitively employed. In a mental health or mental retardation agency or facility, the counselor may provide personal, social, or vocational adjustment services, individual and group counseling, or other services to assist the individual achieve the maximum health, well-being, and independence as possible.

EMPLOYMENT OPPORTUNITIES

The *Occupational Outlook Handbook,* a publication of the U.S. Department of Labor projects the employment opportunities in rehabilitation counseling to be good throughout the country through the mid-1980's.

Follow-up data from nearly 450 graduates of the Program indicate that approximately fifteen percent received doctorates or are presently working on doctorates in rehabilitation or some related counseling profession. The overwhelming majority of the other graduates are employed in over thirty states throughout the country in a variety of public and private community agencies and organizations dealing with addictive problems; correctional rehabilitation; physically, auditorially, or visually handicapped; the mentally retarded or emotionally disturbed; the socially-culturally disadvantaged; and geriatric clients.

PROGRAM PHILOSOPHY

The effective helper in rehabilitation counseling is a person who has acquired the basic attitudes, knowledge, and skills of the profession through academic training; who combines these with personal and emotional characteristics of inter-personal awareness and sensitivity, emotional maturity, and personal effectiveness; and who has demonstrated basic competencies in the helping process.

The goal of the Program is to create a learning environment whereby the student can acquire the academic competencies of the profession and refine them through practical experience as well as to provide a facilitative process through which the student can increase self understanding, self confidence, and personal effectiveness.

DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental

Admissions Committee with evidence of satisfactory undergraduate preparation. A minimum undergraduate quality point average of 2.6 on the four-point scale is necessary for admission, as is a personal interview. The Department emphasizes full-time graduate study with priority for admission given to those applicants, although part-time students are accepted.

PROGRAM

The Rehabilitation Counseling Program is 51 credits of full-time study through four semesters combining classroom work with practical experience. The minimum number of credits needed for the degree is 42. This latter degree program is appropriate for students with a minimum of 12 months of acceptable professionally related work experience, who demonstrate competence in counseling through practical experiences, and who choose to waive the nine credit internship or for students who are eligible for waiver of certain requirements based on their undergraduate preparation. Eligibility for Certification as a Rehabilitation Counselor by the Commission of Rehabilitation Counselor Certification requires graduation from a two year accredited program with an internship. Six graduate credits may typically be transferred into the Program in accordance with the Graduate School policies.

FINANCIAL AID

Limited financial aid has been available in the form of traineeships from the Rehabilitation Services Administration. The traineeship may pay the student's tuition, fees, and provide a monthly stipend. First priority for traineeships, if available, are to students who are full-time, financially eligible, handicapped or non-white, and have demonstrated academic and personal competence and a personal commitment to both the Program and to the field of rehabilitation.

PROCESS

Acceptance to the Program does not insure graduation from it. In addition to the continuous evaluation of the student focusing on academic competence, commitment to the Program and the profession, and the personal and emotional characteristics and qualities related to successful performance in a helping profession, the student is not a candidate for a degree until certain requirements are met. The student typically files an application for candidacy for degree after successfully completing R.C. 301, 304, and 331 and is granted candidacy status following approval by the Dean of the Graduate School. Before the degree is conferred, all students must pass a comprehensive examination which may be written, oral, or both. Application for the compre-

hensive examination is made during the semester the student enrolls for the counseling practicum. Finally, the student must submit a scholarly paper, which may be either a quantitative study or a theoretical exposition, at least 60 days prior to the scheduled graduation date. Only the Master of Science degree is offered.

CURRICULUM

Candidacy requirements:

Before applying for candidacy for degree, the student must successfully complete the following courses:

*R. C. 301 Rehabilitation Services and Issues
R. C. 304 Program Evaluation and Research
R. C. 331 Case Management

Required Courses: in addition to R. C. 301, 304, and 331)

R. C. 321 Human Assessment
R. C. 332 Counseling Theories and Techniques
R. C. 361 Practicum in Rehabilitation Counseling
R. C. 362 Internship in Rehabilitation Counseling
**R. C. 303 Vocational Development and Counseling
**R. C. 305 Vocational Evaluation, Job Development, and Placement
**R. C. 307 Medical and Psychological Aspects of Severe Disability

*A special materials fee of $25.00 is charged for R. C. 301.

**Additional courses required for RSA Traineeship recipients.

Elective Courses:

Elective courses are shown under Course Descriptions. Most of these courses are offered annually, but selected courses are offered biannually. Selected electives may be taken in the Human Resources Administration Program.

Master's Degrees in Rehabilitation Counseling and Human Resources Administration:

Selected students may combine coursework in Rehabilitation Counseling and Human Resources Administration and receive an M. S. degree in each with a 63 credit academic program. Interested students should consult the Director of Graduate Studies to develop this program.

THE REHABILITATION COUNSELING PROGRAM IS ACCREDITED BY THE COUNCIL ON REHABILITATION EDUCATION (CORE)

HUMAN RESOURCES ADMINISTRATION

John K. Stout, D.Ed., CRC, Director, Graduate Studies

Objective:

To prepare supervisory and administrative personnel for public and private health and human services agencies, organizations, and systems.

PROFESSION

The human resources administrator works through and with people using the processes of planning, organizing, leading, and controlling the efforts of individuals and commiting the use of organizational resources in order to achieve stated organizational goals. While all administrative personnel use the above mentioned processes and need a variety of human, conceptual, and technical skills, the specific roles and functions of the administrator will vary according to the person's level in the administrative hierarchy as well as with the respect to the type, size, nature, and complexity of the organization or system in which they are employed. In general, however, all administrative personnel practice the "art of getting things done through people."

PROGRAM PHILOSOPHY

Ordinarily, the Program accepts only those applicants who have either an advanced direct service degree or professional experience in the health/human services field. The goal of the Program is to create a learning environment whereby the student can acquire academic competencies to aspire for administrative positions in health/human services organizations and/or to enhance the functioning of those students already employed as administrative personnel without previous academic training in the attitudes, knowledge, and skills of human resources administration. With the wide variety of clinical backgrounds, work experiences, and organizations represented in the student population, the classroom atmosphere provides a rich and dynamic learning environment.

DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental Admissions Committee with evidence of satisfactory undergraduate preparation. A minimum undergraduate quality point average of 2.6 on the four-point scale is necessary for admission, as is a personal interview.

In addition to the undergraduate degree, the applicant must have

UNIVERSITY OF SCRANTON GRADUATE SCHOOL
THIRTIETH ANNIVERSARY PROGRAM
EIGHTH OF MAY
NINETEEN HUNDRED AND EIGHTY-ONE

Cocktails Hors D'oeuvre

Welcome - Dr. Harry B. Strickland
Dean, Graduate School
Invocation Rev. John J. Fitzpatrick, S.J.
University of Scranton

DINNER

Melon Mielle'
Côte Chaisie De Boeuf Au Jus
Pommes De Terre Au Four Avec Creme Surie
Haricots Verts Aux Amandes
Salade Du Chef Avec Sauce Universitaire
Peaches Melba
Petits Pains-Beurre
Cafe-The'
Vin

Presentation - Cyrano Awards

Rev. Fr. William J. Byron, S.J.
President, University of Scranton
Benediction
Rev. Fr. William B. Hill, S.J.
University of Scranton

Refraichissements

ANNIVERSARY CONCERT

Pennsylvania "Pops"
Conductor

PROGRAM

The U.S. Field Artillery March	John Philip Sousa
Gold And Silver Waltz	Franz Lehar
Jazz Pizzicato	Leroy Anderson
Selections from "Annie"	Charles Strouse
Intermezzo Sinfonico from "Cavalleria Rusticans"	P. Mascagni
Victor Herbert's Favorites Dolores Dominick, Soprano	Herbert Lake
Highlights from "Can-Can"	Cole Porter
Musetta's Waltz from 'La Boheme" Miss Dominick	G. Puccini
The Sound of Music Miss Dominick	Rodgers & Hammerstein
The Stars and Stripes Forever	John Philip Sousa

Refraichissements

Highlights of the Graduate School's Thirtieth Anniversary Celebration held May 8, 1981

University of Scranton Graduate School

Cyrano Award

The tone of the Cyrano Award is set by the classic characterization of Cyrano de Bergerac, who, when translated into human terms, may be viewed as the embodiment of the most noble human virtues with concomitant human foibles. Cyrano is an amalgam of those qualities that are sought and developed by each person whose actions are governed by a code of objective moral principles and a discerning social conscience - a highly responsive person who displays an intuitive knowledge that is intimately personal and a profound awareness of the attitudes and feelings of others. In translation, the emotional stance and attributes of Cyrano de Bergerac are quintessential to the character of a distinguished person.

When interpreted, the character of Cyrano de Bergerac is representative of a person who distinguishes him - or herself through a life-style of moderation that is marked by moral purpose, rational judgement, intuitive responsiveness, and social awareness.

In accord with these interpreted attributes of Cyrano de Bergerac, the Cyrano Award is conferrd upon those selected nominees who have made a significant contribution to the moral, social, and/or materiol betterment of the human condition through institutions, cultural advancement, scientific progress, and/or humanistic endeavors. Accordingly, the contributory activities of the nominees will be characterized by their evident selflessness, perseverance, high moral principles, and/or humanistic ideals. It is with this in mind that the University of Scranton Graduate School Award Selection Committee proudly presents as its 1980-81 Cyrano Award Recipients:

Arthur R. Goerlitz, Ed. D.
Honorable James J. Walsh

Awarded this day, the Eighth of May, Nineteen Hundred and Eight One on the occasion of the Thirtieth Anniversary of the University of Scranton Graduate School

CYRANO DE BERGERAC - Act II, Scene VIII

What should I need to do? Seek a mighty protector, take a patron, and, like an obscure ivy twining around the trunk of a tree, procure myself a guardian by licking the bark, climb by trickery instead of rising by force? No thank you. Be like all the rest and dedicate my verses to men of wealth? Change to a buffoon in the vile hope of seeing a favorable smile rise to some minister's lips? No, thank you! Breakfast every day on toods? Have my belly worn out with crawling? A skin quickly soiled about the knees? Execute tricks of dorsal agility? No, thank you! With one hand caress the hare while the other urges on the hounds, and give senna through desire for rhubarb, always to be burning incense in some one's face? No thank you! To push from step to step, become a little great man in a ring, and sail, with madrigals for oars and elderly ladies' sighs to fill the sails? No, thank you! Pay the good published De Sercy to bring out my poems? No, thank you! To get named pope by the councils held by idiots in the wine-shops? No, thank you! To labor to make a name from one sonnet instead of making others? No, thank you! To show your talent only to novices? To be terrorized by vagrant journals, and to say continually, "Oh, if my name only appears in the sheets to the Mercue Francois!" No, thank you! To calculate, to be afraid, to grow pale, to prefer to make a call rather than write a poem to frame petitions, to be introduced? No, thank you! no , thank you! no, thank you! But - to sing, to dream, to laugh, to pass along, to be alone, to be free, to have an accurate eye, a vibrating voice, to put my hat on awry when I please, to fight for a yes or a no or to write a verse! To work without thought of glory or fortune on an imaginary journey to the moon! Never to write anything that does not proceed from the heart, and, moreover, to say modestly to myself, "My dear, be content with flowers, with fruits, even with leaves, if you gather them in your own garden!" Then if perchance a little success happens to come, not to be obliged to render any of it to Caesar, but keep the merit all myself, - in short, scorn to be the parasitic ivy even if I am neither an oak nor a linden, - not to climb very high perhaps, but to climb all alone!

Past Recipients:

Rev. Fr. Dexter L. Hanley, S.J.; Chief Justice Michael J. Eagen

Rev. Fr. Joseph A. Rock, S.J.: The Honorable William J. Nealon

The Most Reverend James C. Timlin, D D., V. G.; Leonard N. Wolf, Ph.D.

Honorable Richard P. Conaboy; Sister Maria Veronica, I.H.M.

Honorable David J. Wenzel

either a master's degree or 24 months of successful and approved professional work experience in the health/human services field which may run concurrent with the academic program.

Applicants unable to meet the professional work experience or master's degree requirement must pursue a double concentration: a master's degree in Rehabilitation Counseling and a master's degree in Human Resources Administration involving a total of 63 graduate credits.

PROGRAM

The Human Resources Administration Program is typically 36 credits although six graduate credits will generally be approved for transfer into the Program if in accordance with the Graduate School policies; if the student already possesses a master's degree, nine graduate credit *may* be transferred. Students not wishing to pursue a master's degree may be accepted as a non-matriculating special student. The applicant and the Director shall develop an 18 credit individualized academic Program, at the conclusion of which the student shall receive a Certificate of Achievement for 18 graduate credits of course work in Human Resources Administration. Certificate students are exempt from the scholarly paper and comprehensive examination requirements.

The student is offered the choice of selecting coursework in one of three specialty areas. A generic administrative emphasis, applicable to most health and human services systems may be pursued by taking the eleven generic courses (HRA 380-390). A specialty area in health services administration may be selected by taking the five related area courses (HRA 395-399). In addition, the student may choose to emphasize administration in the human services field by judiciously combining administration courses with a maximum of nine credits of rehabilitation counseling courses (RC 307, 311-316, and 336). The student should consult with the Program Director to develop an individualized program to meet his/her long-term career goals.

PROCESS

Acceptance to the Program does not insure graduation from it. In addition to continuous academic evaluation, the student is not a candidate for a degree until certain requirements are met. To become a candidate for degree, the student must successfully complete HRA 380, 381, and 382 and file an application for candidacy status which must be approved by the Dean of the Graduate School. In addition, the student must successfully pass a comprehensive examination, which may be written, oral, or both. Application for the comprehensive examination is made during the semester the student enrolls for HRA

387. The student must also submit a scholarly paper, which may be a quantitative study or theoretical exposition, at least 60 days prior to the scheduled graduation date. Only the Master of Science degree is offered.

CURRICULUM

Candidacy Requirements:

Before applying for candidacy for degree, the student must successfully complete the following courses:

HRA 380 Organization and Administration
HRA 381 Leadership, Motivation, and Satisfaction*
HRA 382 Financial Administration
HRA 388 Program Evaluation and Research

**A special materials fee of $25.00 is charged for HRA 381*

Required Courses: (in addition to HRA 380, 381, and 382)

HRA 387 Administrative Issues
HRA 388 Program Evaluation and Research

Elective Courses: Electives should be selected from the following list after developing an individualized academic program with the Program Director.

HRA 383 Personnel Administration
HRA 384 Resource Development
HRA 385 Human Behavior in Organizations
HRA 386 Labor Relations
HRA 389 Computer Applications
HRA 390 Directed Study
HRA 395 Health Services Systems
HRA 396 Legal and Social Aspects of Health Services/Systems
HRA 397 Hospital Systems
HRA 398 Long Term Care Systems
HRA 399 Special Topics in Health Services Administration

NOTE: A maximum of nine credits of Rehabilitation Counseling courses may be elected to emphasize administration in the human services field. Ordinarily the credits are chosen from RC 307, 311-316, and 336.

Master's Degrees in Rehabilitation Counseling and Human Resources Administration:

Selected students may combine coursework in Rehabilitation Counseling and Human Resources Administration and receive an M. S. degree in each with a 63 credit academic program. Interested students should consult the Director of Graduate Studies to develop this program.

Course Descriptions

HUMAN RESOURCES ADMINISTRATION

HRA 380 *Organization and Administration* *3 credits*
The planning, organizing, directing, and controlling functions of administration in human services organizations and systems, organizational structure, authority, decision-making, communications, and the differences between profit-making, and public and private not-for-profit health/human service organizations.

HRA 381 *Leadership, Motivation, and Satisfaction* *3 credits*
Theories of and research on leadership and motivation along with research relating leadership and motivation to job satisfaction and job performance. Alternate work systems and incentives appropriate to health/human service organizations.

HRA 382 *Financial Administration* *3 credits*
Functions of finance including accounting conventions, capital budgeting and financing, performance budgets, and cash flow and cash management for the administrator in health/human service organizations.

HRA 383 *Personnel Administration* *3 credits*
The personnel functions of recruitment, selection, training, performance appraisal, compensation and benefits programs, and regulations governing health/human services organizations.

HRA 384 *Resource Development* *3 credits*
The functions of needs assessment and planning, grantmanship and development, training, and public relations in public and private health/human service organizations.

HRA 385 *Human Behavior in Organizations* *3 credits*
Individual and group behaviors in health/human service organizations.

HRA 386 *Labor Relations* *3 credits*
The role of organized labor in health/human service organizations; specifically, labor legislation, union security and contracts, collective bargaining, grievance processing, and third party resolutions.

HRA 387 *Administrative Issues* *3 credits*
Seminar in issues and problems in supervision and administration in health/human service organizations.

HRA 388 *Program Evaluation and Research* *3 credits*
Program evaluation models, strategies, and processes in health/human service organizations.

HRA 389 *Computer Applications* *3 credits*
A conceptual introduction to computer terminology, systems, and programming with emphasis on applications in health/human services systems.

HRA 390 *Directed Study* *3 credits*
Individualized study and/or project on administration in health/human service organizations, supervised by Departmental faculty person.

HRA 395 *Health Services Systems* *3 credits*
Historical development of health services, health services systems and organizations, health insurance, and governmental regulation.

HRA 396 *Legal and Social Aspects of Health Services/Systems* *3 credits*
Analyses and impact of legal and social factors on the organization and delivery of health services.

HRA 397 *Hospital Systems* *3 credits*
Organization, structure, and operation of hospital systems.

HRA 398 *Long Term Care Systems* *3 credits*
Organization, structure, and operation of long term care systems.

HRA 399 *Special Topics in Health Services Administration* *3 credits*
Selected topics of relevance to health services administration are offered on variable basis.

Course Descriptions

REHABILITATION COUNSELING

R.C. 301 *Rehabilitation Services and Issues* *3 credits*

Identification of the principles underlying rehabilitation, including history, philosophy, structure, and legislation. Study of the rehabilitation process from referral through follow-along activities. Issues regarding legal issues, professional ethics, consumer advocacy, personal philosophy, community organization and the team concept are presented through a combination of guest lecturers and field trips.

R.C. 302 *Human Dynamics* *3 credits*

Designed to increase the student's awareness of his needs, his impact on other persons, and the demands of his environment. Human dynamics are illustrated and experienced in small group interactions.

R.C. 303 *Vocational Development and Counseling* *3 credits*

Theories and models of vocational choice, career development, vocational counseling, and selected vocational assessment measures applicable to both disabled and non-disabled individuals are presented. Theoretical concepts are illustrated through case studies and role playing.

R.C. 304 *Program Evalution and Research* *3 credits*

Program evaluation models, strategies, and processes in human service organization.

R.C. 305 *Vocational Evaluation, Job Development, and Placement* *3 credits*

The course provides an in-depth study of the placement process and the rehabilitation problems and issues dealt with by the counselor in placing individuals with severe disability. Industry and vocational assessment center visits may be required and 1-day seminar attendance essential.

R.C. 306 *Guided Field Experience in Rehabilitation* *3 credits*

Directed group observation and discussion of habilitation and rehabilitation services provided in a variety of community agencies, hospitals, clinics, therapeutic centers, halfway houses, drop-in centers, work training centers, group-living homes for the handicapped, and rehabilitation centers.

R.C. 307 *Medical and Psycho-social Aspects of Severe Disability* *3 credits*

Unique problems of various disability groups encountered by the counselor. Psychodynamic principles underlying personal adjustment to disability with emphasis on client needs, conflicts, and adjustment mechanisms. Environmental adjustment problems in relation to the nuclear family and community. A combination of guest lecturers and field trips will be utilized.

R.C. 311 *Addiction* *3 credits*

The problems of drug and alcohol dependency are examined. Treatment approaches and facilities are illustrated and discussed.

R.C. 312 *Physical Disability* *3 credits*

The most common physical disabilities with which rehabilitation counselors deal are discussed including symptomatology, residual functioning, psychological correlates, and rehabilitation treatment.

R.C. 313 *Mental Health* *3 credits*

An examination of the problems of and associated with mental and emotional disturbances. Emphasis is placed on contemporary modalities of treatment as they relate to community Mental Health programs. Critical issues revolving around mental health including the dynamics behind these issues will be discussed.

R.C. 314 *Correctional Rehabilitation* *3 credits*

The course examines a broad spectrum of the criminal justice rehabilitation system which includes rehabilitation aspects of various types of prisons, community treatment approaches as well as probation and parole. The role of the correctional rehabilitation counselor is emphasized through the case study method.

R.C. 315 *Gerontology* *3 credits*

The purpose of this course is to present a broad overview of the major concepts and issues relevent to gerontology. The course will begin with a historical perspective of the field and branch into the psychological, sociological and biological aspects of aging.

R.C. 316 *Learning Disabilities and Mental Retardation* *3 credits*

The problems of and associated with the developmentally disabled are examined with special emphasis being given to the learning disabled and mentally retarded. Approaches for assessment, management, and rehabilitation are discussed.

R.C. 321 *Human Assessment* *3 credits*

Focuses on the statistical and research basis of psychological testing. Psychological tests are conceptualized and the student gains familiarity with the clinical use of these tests in rehabilitation counseling.

R.C. 331 *Case Management* *3 credits*

The role of the rehabilitation counselor as a case manager or coordinator of services is examined. A case study approach is utilized.

R.C. 332 *Counseling Theories and Techniques* *3 credits*

Selected theories and techniques of counseling are discussed and examined through a combination of lecture, discussion, and role playing activities. Application to different types of rehabilitation clients is discussed. Prerequisite - R.C. 331.

R.C. 333 *Group Counseling and Dynamics* *3 credits*

Selected theories, techniques, and research in group counseling, and dynamics are discussed with particular emphasis on application in rehabilitation treatment and supervision.

R.C. 334 *Behavior Modification and Therapy* *3 credits*

The literature on behavior modification and therapy is examined with particular emphasis on the application in rehabilitation facilities such as sheltered workshops, half-way houses, correctional facilities, and mental

institutions.

R. C. 335 *Community Residential Care* *3 credits*
Focuses on planning, designing, and operating independent living and community residential care facilities for the physically, mentally and emotionally handicapped, the elderly, addicted, and correctional populations. The role of the community residential worker as a behavioral change agent in defining and monitoring treatment programs and evaluating treatment outcomes is emphasized.

R. C. 336 *Stress Management* *3 credits*
Focuses on stress, the nonspecific response of the body to any demand, which affects thoughts, emotions, and the body. Stress-induced diseases of adaptation (the psychosomatic warning signs such as hypertension, gastrointestinal disorders, and nervous disturbances) along with the stress-related thought disorders and emotional disturbances are examined.

R.C. 337 *Family Therapy* *3 credits*
The systems and communication theories of family therapy will be presented with specific attention to the structural and strategic family therapy approaches. A variety of family therapy techniques and stages will be learned through the use of role play and videotaping. The utilization of family therapy with rehabilitation clients will be discussed. (Prerequisite: R.C. 333 strongly recommended.)

R.C. 341 *Administration and Supervision* *3 credits*
Administrative and supervisory principles and practices are covered. Included are leadership and supervisory roles and functions, staff development practices, and personnel utilization and maximization. Problems are illustrated in case studies.

R.C. 361 *Practicum in Rehabilitation Counseling* *3 credits*
Focuses on necessary and desirable counseling skills, development of counseling relationships, and case conceptualization. Practical application of counseling theories and techniques, psychological testing, and vocational development theory is emphasized. (Pre-requisites 301, 304, 321, 331, 332).

R.C. 361.1 *Practicum in Group Counseling* *3 credits*
Focuses on necessary and desirable group counseling skills, the development of group environments and the use of group techniques for generating individual change. An advanced personal group experience under direction of the faculty is an ongoing part of this practicum. Students will be admitted to this practicum only by consent of faculty practicum supervisor. (Prerequisites 302, 333).

R.C. 362 *Internship in Rehabilitation Counseling* *9 credits*
Full time placement in a community rehabilitation agency, facility, or institution involving 600 clock hours of supervised experience. These assignments may include work in a district office of the Pennsylvania Bureau of Vocational Rehabilitation, or an agency offering services for a specific handicapped group (blind, retarded, emotionally disturbed, orthopedically disabled etcetra), or in a sheltered workshop, center, hospital or other public or private agency where the student is a member of the rehabilitation team.

Master of Business Administration Program

Dr. Ralph W. Grambo, Director

REQUIREMENTS

Admission

The basic policy of the school is to select for the MBA program those men and women whose intellectual ability, and leadership potential qualifies them for careers in management. Admission is based on the following criteria: performance on the Graduate Management Admission Test (GMAT), overall grade point average, rank in graduating class, managerial experience and other earned graduate degrees.

Applicants should have a total of at least 950 points based on the formula: 200 × the undergraduate G.P.A. + GMAT score. A maximum of 6 graduate credits may be transferred to the University of Scranton. All foundation course credits may be transferred to the University of Scranton. Foreign students, whose native language is not English, are required to demonstrate their proficiency in English by achieving a score of at least 500 in TOEFL.

Applications should be made two months in advance of the entering dates in September and February.

Program of Study

MBA students attend classes in the evenings on either a full-time or part-time basis. Students may specialize in Accounting, Finance, Personnel and Labor Relations, Operations and Production, or Marketing. The MBA curriculum includes: foundation courses, core courses and advanced electives. The curriculum is designed for students with or without an undergraduate business degree. Students with business degrees can normally complete the MBA program by satisfying the core and advanced elective requirements. Students with non-business undergraduate degrees will be required to complete some or all of the foundation courses. The foundation courses include: micro and macro economic theory, accounting and information systems, quantitative methods and statistics, management principles, marketing, finance and business law.

The core of the MBA program is designed to give students broad-based management skills at the graduate level. Courses in managerial economics, managerial accounting, management science, organizational behavior, marketing, finance and business policy allow students to widen their perspective and communicate more effectively with managers in other functional areas.

Advanced electives allow the student to deepen his knowledge in one functional area of business.

Students with recent undergraduate degrees in Business Administration or accounting should be able to complete the MBA program with 36 graduate credit hours. Students without the undergraduate business degree may be required to take additional credits in the foundation area. The foundation courses required will be named in the letter of admission. These foundation courses may be challenged by examination which may be taken only once. Such challenge exams are given on the first Friday during the months of October and March. Application forms for such examinations can be obtained from the Dean of the Graduate School (see fee schedule for cost of examination).

CANDIDACY

Students seeking the MBA degree must, after completing nine graduate credits in Business Administration, file an application for candidacy. On receipt of this application and the completion of nine graduate credits in Business Administration, the student's record will be reviewed by his mentor and the Director of MBA to determine that all prerequisites have been met and to appraise his potential for successful completion of graduate work and growth in his field. No one will be permitted to continue his credits toward the MBA degree until he has been formally admitted to candidacy.

GRADUATE MANAGEMENT ADMISSIONS TEST

This examination is an aptitude test designed to measure certain mental abilities that have been found to be important in the study of business at the graduate level. This test will be required of all students.

Application forms for the GMAT may be obtained from the Graduate Office or by writing to the Educational Testing Service, Box 966, Princeton, New Jersey, 08540. Applicants should be *registered* with ETS to take the exam at least three weeks prior to the testing date. The exam will be administered on this campus on the following dates: October; January; March; and July.

Curriculum

The curriculum is designed to conform with AACSB standards. Courses are given at three levels (Foundation, Core, Advanced Electives) in several functional areas. Students must complete any foundation requirements before taking Core and Advanced Courses. MBA students must declare a major in either; Accounting, Operations Management, Personnel and Labor Relations, Marketing or Finance. A student must have the undergraduate degree in accounting to declare a graduate accounting major. Three elective courses must be taken in the student's major field, one elective course may be taken in any MBA field.

ACADEMIC AREAS	FOUNDATION AREA COURSE UP TO 30 CREDITS PRESCRIBED AT ADMISSION	M. B. A. CORE (24 credits)	ADVANCED ELECTIVES (12 credits)	M. B. A. MAJOR
Economics	Econ 11 & 12 or Bus 201	Bus. 305 Mgr. Econ		
Accounting	Acc 3 & 4 or Bus 202	Bus 325 Acct. for Mgmt.	421 Adv. Auditing 422 Adv. Fed. Taxation 423 Accounting Data & Control 424 Adv. Finan. Acct. 429 Special Topics Sem.	Accounting
Quantitative Mgmt & Information Systems	Math 3 & 4 or Bus 209 Mgt 15 & Mgmt 109 or Bus 210	Bus 342 MS I (Applied Statistics) Bus 343 MSII (Oprs. Management)	441 Production Operations 442 Applied Op. Research 443 Applied Decision Analysis 444 Business Forecasting Models 445 Information Systems Analysis 449 Special Topics Sem.	Operations Mgmt.
Behavioral	Mgmt 108	Bus 350 (Org. Behv.)	451 Personnel Mgmt 452 Labor Relations 453 Labor Economics 454 Group Dynamics 459 Special Topics Sem.	Personnel & Labor Relations
Marketing	Mar 107	Bus 360 (Marketing Mgmt)	461 Mkt Research 462 Promotion 463 International Mkt. Mgmt. 464 Consumer Behavior 469 Special Topics Sem.	Marketing
Finance	Fin 110	Bus 380 (Fin. Mgmt.)	481 Financial Institutions 482 Advanced Fin. Mgmt 483 Investments 484 International Finance 489 Special Topics Sem.	Finance
Legal Envi.	Mgt 9			
Policy		Bus 390 (Bus. Policy)		

Course Descriptions

FOUNDATION AREA COURSES

Econ 11 & 12 *Principles of Econ I & II* *6 credits*
Determinants of aggregate economic activity, monetary and banking system, the composition and fluctuation of national income as influenced by monetary and fiscal policy; operation of the price system as it regulates production, distribution and consumption, international economics.

Bus 201 *Essentials of Macro-Micro* *3 credits*
This course is intended only for students needing prerequisites in economics. The course will develop the theory of markets and will then focus o nthe problems that arise from market failures and the issues surrounding government solutions. The problem areas to be covered will include monopoly power in product and labor markets, the need for consumer protection, economic instability and inequity of market results.

Acc 3 *Financial Accounting* *3 credits*
(For non-accounting majors) A survey of the topics in Acc 1 and 2. Coverage is directed toward the reporting of financial information to interested parties. 3 hours lecture.

Acc 4 *Managerial Accounting* *3 credits*
(For non-accounting majors) (Prerequisite: Acc. 3) Accounting techniques required in compiling and interpreting selected data for decision making. Includes such areas as cash and working capital flows, profit planning, statement analysis, capital investment decision, planning and controlling operations. 3 hours lecture.

Bus 202 *Survey of Managerial and Financial Accounting* *3 credits*
This course is intended only for students needing prerequisites in accounting. The course will cover reporting financial information and accounting techniques for decision making, planning and controlling operations.

Math 3 & 4 *Quantitative Methods I& II* *6 credits*
Finite mathematics covering functions and graphs, matrix methods, linear programming and probability, differential and integral calculus.

Mgt. 15 *Statistics for Business I* *3 credits*
(Prerequisite: Math 4) An introduction to the elements of probability theory. The major probability distributions are covered with an emphasis on business applications. Basic concepts in decision theory are also introduced. 2 hours lecture and 1 hour lab.

Mgt 109 *Introduction to Management Science* *3 credits*
A survey of the quantitative techniques which are used by modern managers. Topic coverage will focus on model building, linear an dnon-linear programming methods and simulations. Emphasis placed on the use and limits of these quantitative methods.

Bus 209 *Quantitative Methods I* *3 credits*
An introduction to various mathematical tools used in the solution of business problems. Topics include: sets, vectors, matrices, system of linear equations; functions; differential calculus of single and several variables, classical optimization and integral calculus. Introduction to computer software and its use in business.

Bus 210 *Quantitative Methods II* *3 credits*
(Prerequisite: Bus 209 or its equivalent). Sample space, basic probability concepts, random variables, discrete and continuous probability distributions, sampling distributions. Linear programming problem formulation. Simplex method. Duality and sensitivity analysis. Transportation and assignment problems.

Mgt. 108 *Organization and Management* *3 credits*
The major concepts of managerial action dealing with planning, organizing, directing and controlling. Knowledge of these key aspects of the management process will provide the student with a framework for decision making. 3 hours lecture.

Mar 107 *Managerial Marketing* *3 credits*
Managerial analysis of the marketing activities in business firms and institutions, including issues on macroenvironment, consumer behavior and international markets. Emphasis on segmenting target markets and developing marketing policies, such as product introduction, promotional campaigns, channels of distribution and pricving targets. 3 hours lecture.

Fin 110 *Corporation Finance* *3 credits*
(Prerequisite: Acc 2 or 4, Mgt 6). A comprehensive study of the financing decision within a corporation. Analysis of risk and return, capital budgeting under conditions of uncertainty and financial structure.

Mgt. 9 *Legal Environment* *3 credits*
The nature, sources, formation and application of law. The judicial function, the court system, litigation and other methods of resolving disputes, constitutional law; legislation, law from judicial decisions, law by administrative agencies, regulation of business activity and taxation of business. Introduction to the law of contracts, antitrust laws, business organizations and security regulation, the law of employment, consumer protecion, environment and pollution control.

M.B.A. CORE COURSES

Bus 305 *Managerial Economics* *3 credits*
(Prerequisite: Bus 342). An intensive study of the problems of value and costs, including demand theory, empirical demand analysis, production theory, cost theory, linear programming applications in resource allocation and cost analysis, empirical cost analysis, market structure and pricing theory, pricing practices and the role of government in the private economy.

Bus 325 *Accounting for Management* *3 credits*
(Prerequisite: Bus 202 or Acc. 4). Emphasis is placed on ways to use, an-

alyze, and interpret accounting data in planning and controlling organizational activities. Selected techniques required for analysis and managerial decision making are introduced.

Bus 342 *Management Science I (Managerial Statistics)* *3 credits*
(Prerequisite: Bus 210). Statistical methods used by managers to analyze qualitative as well as quantitative data will be discussed. Such topics as regression and correlation analysis, design of experiments, and nonparametic methods are presented from a decision making approach. Emphasis will be on problem formulation and output analysis rather than on computation.

Bus 343 *Management Science II* *3 credits*
(Prerequisite: Bus 210). The quantitative approach to managerial problems of planning and controlling the design and operation of production and other business systems. Topics include: mathematical programming, decision analysis, simulation, Markovian and queueing models, project management techniques, management of production and inventory systems.

Bus 350 *Organizational Behavior* *3 credits*
(Prerequisite: Mgt 108 or equivalent). A primary goal of an organization is the improved performance of individuals and work groups within the organization. Organizational behavior is the field of study that investigates and explains those concepts or theories which are vital in current management practices dealing with job performance.

Bus 360 *Marketing Management* *3 credits*
(Prerequisite: Mar 107). Analysis of the conceptual and tactical mechanisms of marketing management with emphasis on how today's firms and institutions mobilize their resources to achieve market penetration, sales volume, and satisfactory profits. Marketing planning with control and implementation of strategies as major aspects of decision making. Also, exploring market opportunities and formulation om marketing policies (marketing mix) exemplified through case studies.

Bus 380 *Financial Management* *3 credits*
(Prerequisite: Fin 110). Principles of policy information in the modern corporation; the institutions, instruments and customary procedures that influence the determination of corporate policy; and the reasons for choices in seeking solutions to specific financial problems. A case approach will be utilized to cover problems of working capital management, capital budgeting, and capital structure. Computerized approaches to financial problems will be emphasized.

Bus 390 *Business Policy* *3 credits*
(Prerequisites: Bus 305, 325, 343, 350, 360, 380). Starting with conceptual and institutional foundations of business, the course covers the philosophy, history and ethics of business policy, culminating the specific areas of policy, accounting, finance, marketing and management. This course should be taken in the last semester of the student's program, and only afetr all other core and major courses are completed.

ADVANCED ELECTIVES

Accounting

Bus 421 *Advanced Auditing* *3 credits*
(Prerequisites: Acc 121 or its equivalent). Audit of income statement and selected balance sheet items. The Audit Report, internal auditing, ethics of the profession. Audit case problems. Admission with consent of instructor.

Bus 422 *Advanced Federal Taxation* *3 credits*
(Prerequisites: Acc 123 or its equivalent). Corporation Income Taxes, with special emphasis on current Internal Revenue Service regulations. Partnerships included. Admission with consent of instructor.

Bus 423 *Accounting Data for Decisions and Control* *3 credits*
(Prerequisites: Acc 113, Acc 114 or Bus 325). Decision models including pricing factor and product combinations. Examination of the problems of control in organization including transfer pricing and performance evaluation.

Bus 424 *Advanced Financial Accounting* *3 credits*
(Prerequisite: Undergraduate accounting degree). Critical examination of the treatment of major items in the financial statements using conventional (historical cost) accounting. Examination of selected topics including: consolidations, accountaing for government and non-profit institutions.

Bus 429 *Special Topics in Accounting Seminar* *3 credits*

Operations Management

Bus 441 *Production and Operations Management* *3 credits*
(Prerequisite: Bus 343). The course will focus on decisions faced by managers in the area of production and operations. Topics covered will include: facility location and layout, production-operation planning and scheduling; and operation control including quality control and inventory control. Emphasis will be focused on the solution to common problems of managers responsible for production or operations.

Bus 442 *Applied Operations Research* *3 credits*
(Prerequisite: Bus 343). A course devoted to the study of the theory and application of Operations Research models. Topics are chosen from mathematical programming, decision analysis, production-inventory management, Queueing Theory and Markov Process. Case studies of several applications illustrating different features of Operations Research will be discussed.

Bus 443 *Applied Decision Analysis* *3 credits*
(Prerequisite: Bus 342). An overview of decision analysis and modeling under uncertainty. Topics will include: behavioral assumptions and limitations of decision analysis, risk analysis, personal and group utility functions and their applications. Case studies of several applications illustrating different features of decision analysis will be discussed.

Bus 444 *Business Forecasting Models* *3 credits*
(Prerequisite: Bus 342). Techniques of business forecasting with emphasis on practical application to different business problems. Topics covered will include the forecasting process, data collection methods. Qualitative methods along with quantitative forecasting models such as regressilon analysis, exponential smoothing, and the Box-Jenkin technique will be studied.

Bus 445 *Information Systems Analysis* *3 credits*
(Prerequisites: Bus 342, 343, 345, 350, 260 and 380). This course introduces the student to the conceptual basis and practical design of management information systems. Identification of information requirements and information flow in an organization will be discussed. Additional topics to be covered include data management, computerized systems, and applications to functional business areas such as accountaing, finance, marketing and production.

Bus 449 *Special Topics Seminar* *3 credits*
(Prerequisites: Bus 342, 343, 345, 350, 360 and 380). Application of Quantitative Methods of analysis to research problems in Management, Finance, Marketing, Production Planning, and Management Information systems.

Personnel & Labor Relations

Bus 451 *Personnel Management* *3 credits*
(Prerequisite: Bus 350). Preparation of job descriptions, labor demographics recruitment, interviewing, performance evaluation grievances, government regulations relating to labor.

Bus 452 *Labor Relations* *3 credits*
(Prerequisite: Bus 350). Analysis of human econimic, political and technological factors affecting negotiations, interpretation and administrators of collective bargaining agreement between management and labor unions.

Bus 453 *Labor Economics* *3 credits*
(Prerequisite: Bus 350). Analysis of conditions affecting short-run and long-run supplies of and demand for, and terms and levels of employment of various grades of labor in unionized and non-union markets.

Bus 454 *Group Dynamics* *3 credits*
(Prerequisite: Bus 350). Designing individual and group behavior systems, contemporary topics on designing organizational systems for better utilization of human resources.

Bus 459 *Special Topics in Personnel and Labor Relations* *3 credits*

Marketing

Bus 461 *Marketing Research* *3 credits*
(Prerequisite: Bus 360). Marketing Research is studied as the basis for decision making, for analysis of markets, and for evaluation of marketing strategies through systematic gathering of information and evidence. The foundations and methodology of research including behavioral sciences and multivariate analysis are discussed. Research projects are conducted by the class participants and research applications to marketing problems are exemplified.

Bus 462 *Promotion Management: Advertising and Selling* *3 credits*
(Prerequisite: Bus 360). A study of the promotion activities of business firms and institutions; analysis of audience behavior and motivation; communication through mass media and person to person interaction including advertising, personal selling, sales promotion, and publicity; the development of an integrated promotional strategy to generate sales and profits through informing, persuading, and activating middlemen and consumers.

Bus 463 *International Marketing* *3 credits*
(Prerequisite: Bus. 360). A study of the managerial problems in international marketing covering factors affecting international markets in different cultural areas of the world.

Bus 464 *Consumer Behavior* *3 credits*
(Prerequisite: Bus. 360). Study of the basic factors influencing consumer behavior with emphasis on managerial use of consumer decision making models from both economics and the social sciences.

Bus 469 *Special Topics in Marketing Seminar* *3 credits*

Finance

Bus 481 *Financial Institutions* *3 credits*
(Prerequisite: Bus 380). A detailed survey of the more important financial institutions of the United States in order to determine their functions and inter-relations in the national economy. Monetary and fiscal policy. Material covered will assist the student to better understand the economic, social and political scene in America.

Bus 482 *Advanced Financial Management* *3 credits*
(Prerequisite: Bus 380). A case oriented approach to financial decision making with emphasis on current management, capital budgeting, capital structure, mergers and bankruptcy.

Bus 483 *Investment Analysis* *3 credits*
(Prerequisite: Bus 380). The investment markets and financial analysis of avrious types of investments including industrial, railroad, utility, financial institutions, real estate, government, municipal and foreign securities; the mathematics and mechanics of investments.

Bus 484 *International Finance* *3 credits*
(Prerequisite: Bus 380). A detailed survey of the financial decision process of multinational corporations. Topics include, foreign exchange risks, foreign investment decisions, positioning of funds, international banking, import and export financing, multinatioal accounting rules and tax planning.

Bus 489 *Special Topics in Finance Seminar* *3 credits*

Department of English

Dr. John McInerney, Chairman and Director of Garduate Program

DEPARTMENTAL REQUIREMENTS

The applicant must, prior to the start of his graduate program, possess a baccalaureate degree; and must have completed on the undergraduate upper-division level a minimum of eighteen semester hours in English; and must, further, have a quality point index of not less than 2.5 (of a possible 4.O) in his upper-division courses in English. Also, the Department ordinarily requires all applicants to take the general and specialized GRE examinations. The applicant will, normally, be admitted to candidacy after the successful completion of nine graduate credits in English and the recommendation of the Departmental graduate committee. Applicants who have achieved satisfactory scores on the advanced literature section of the Graduate Record Examination prior to admission (scores to be reviewed by the graduate committee) may be considered degree candidates immediately. The Department recommends that all applicants take the G.R.E., particularly those who contemplate proceeding to the doctorate. No student may continue to take credits towards a degree (after nine hours of course work) who has not been formally notified of his admission to candidacy.

COURSE REQUIREMENTS

A. Master of Arts in English

Candidates for the degree of Master of Arts in English may select a thesis or non-thesis program.

A 1. Thesis Program

The M.A. thesis program will require the student to complete successfully 27 credits in courses in English, as outlined below; pass a comprehensive requirement; and present a critical study (dissertation) of no less than 12,000 words. The comprehensive examination for the M.A. (thesis) will be an oral examination, in which the candidate will defend his dissertation and be questioned on literary material from the area of his thesis and two other major areas of English or American literature. The specific areas for each student's oral examination will be established by the student and his mentor, based on the thesis topic.

The specific course requirement for the M.A. (thesis and non-thesis) is English 200: Introduction to Research and Linguistics (three credits). The remaining 24 hours of credit for the M.A. (thesis) are to be taken in courses approved by the student's mentor. These courses should be so chosen as to combine student interest in certain periods

and genres, and coverage, both in range and depth, of the fields of British and American literature. The 33 credit hours necessary for the M.A. (thesis) are completed with the six hours granted for the dissertation.

A 2. Non-Thesis Program

The M.A. non-thesis program requires the student to complete successfully 33 credits in courses in English, including English 200;* and pass a written comprehensive examination. The examination, which is given several times a year, as scheduled by the Graduate Office, will be based on a "reading list" of works selected from the major eras of British and American literature. The questions require students to demonstrate their knowledge of those works, as well as the literary history of which they are a part and the characteristics of the genres they exemplify. There are several such lists, and each one is the basis for several examinations. The lists and the tests are rotated regularly. Students should ask their mentors or the Department Chairman for a Reading List after they have completed nine credits of graduate study, and begin then to prepare for the Comprehensive Examination. They should apply at the Graduate Office to take that examination some time during the year in which they expect to complete their degree requirements.

B. Master of Science in English - Correlated Program

For a Master of Science in English correlated with education, kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education for application procedures and degree requirements.

MODERN LANGUAGE REQUIREMENT

If the M.A. degree is to be a terminal degree, students will not be required to satisfy a modern language requirement. Nor will there be a modern language requirement for students following the Master of Science (correlated) program. Students intending to continue graduate studies elsewhere to the doctoral level should, however, fulfill the modern language requirement by successfully completing a reading examination in the language of their choice, before taking the M.A. degree. The language, normally, would be either French or German. They should also begin to acquire a competency in a second foreign language.

COMBINED UNDERGRADUATE - GRADUATE PROGRAMS

A special five-year program leading to the Master of Arts degree in English is offered to qualified undergraduate students which makes it possible to obtain the A. B. and M. A. degrees within the period cited. Interested students should contact the Chairman of the Department for details.

Course Descriptions - English

English 200. *Introduction to Research and Linguistics* *3 credits*
A survey of a selective list of books and periodicals that every student of literature should read; also an introduction to the general science of linguistics.

English 201. *History of the English Language* *3 credits*
An investigation of the principal phonemic, morphological, and orthographic changes governing the evolution of the English language from Anglo-Saxon times to the present; although the approach will be historical, due emphasis will be accorded the study of our language as a living cultural entity. (Subject to the discretion of the Chairman or a delegate, this course may be substituted for English 200 in fulfillment of the department's linguistics requirement.)

English 205. *Modern Grammar in the English Curriculum* *3 credits*
The theory of transformational grammar, studied against such other theories as prescriptivism, structuralism and case grammar, in practical application to the high school and college English curriculum.

English 206. *Composition in the English Curriculum* *3 credits*
Designed for both high school and junior college English teachers, this course will review traditional composition programs and approaches, explore innovative programs and methods, and consider the place of composition in a variety of curricula.

English 207. *Literature in the English Curriculum* *3 credits*
In considering strategies for selecting, organizing, and teaching high school literature, this course will explore the central question of what a sequential, well-balanced, efficient program in literature should consist of. It will include adolescent literature, themes, genres, socio-political movements, thematic and short courses, autotutorial devices or systems, and inquiry methods.

English 211. *Medieval English Literature* *3 credits*
A critical study of the major literary works in English of the Middle Ages, from **Beowulf** through **Everyman.**

English 214. *Chaucer I: The Early Poems* *3 credits*
Close study of Chaucer's poetry other than **The Canterbury Tales,** with particular emphasis on **Troilus and Criseyde.**

English 215. *Chaucer II: The Canterbury Tales* *3 credits*
A detailed examination of the general structure of **The Canterbury Tales** and of the individual tales, with attention to specialized critical tools and techniques, and to various critical approaches to Chaucer.

English 220. *Shakespeare and Other Elizabethan Dramatists I* *3 credits*
A careful study of Shakespeare's plays written before 1600, together with selected plays of Marlowe, Kyd, Greene, and Peele.

English 221. *Shakespeare and Other Elizabethan Dramatists II* *3 credits*
A careful study of Shakespeare's plays written after 1600, together with selected plays by Jonson, Chapman, Dekker, Beaumont, Fletcher, Tourneur, Marston, Middleton, Massinger, and Ford.

English 231. *Sixteenth Century Literature* *3 credits*
Poetry and prose of the English Renaissance, with special attention to the new birth of poetic form; examination in depth of the great poetic achievements of Sidney, Spenser, and Shakespeare.

English 232. *Seventeenth Century Literature* *3 credits*
A study in depth of the major British authors of the seventeenth century other than Milton.

English 234. *Milton* *3 credits*
An appreciation of John Milton as poet, critic, and innovator, together with a critical survey of the poet's sources, poetical works, and literary forms.

English 236. *Augustan Studies* *3 credits*
A study in depth of the major works of John Dryden, Alexander Pope, Jonathan Swift, Joseph Addison, Richard Steele, and William Congreve.

English 238. *Dr. Johnson and His Age* *3 credits*
The work of Johnson and his contemporaries studied in the light of the social, political, and intellectual background of the second half of the eighteenth century.

English 239. *The English Novel, Defoe through Austen* *3 credits*
Readings of selected novels of the eighteenth and early nineteenth centuries, with emphasis on the literary, social, and intellectual sources of the novel.

English 240. *Romantic Poetry and Criticism* *3 credits*
An examination of the poetry and critical writings of the major romantic poets. The aim is not an exhaustive survey but an intensive study of several of the following: Blake, Wordsworth, Coleridge,, Byron, Shelley, Keats.

English 243. *Victorian Poetry and Non-Fictional Prose* *3 credits*
An examination of Victorian poetry and non-fictional prose in the light of its social, political, and intellectual backgrounds. The aim is not an exhaustive survey but an intensive study of several of the following: Tennyson, Browning, Arnold, the Pre-Raphaelites, Carlyle, Newman, Ruskin and Pater.

English 244. *The English Novel, Dickens through Hardy* *3 credits*
Readings in selected Victorian novels in the light of the social, political,

and intellectual backgrounds of the age, with emphasis on the artistic development of the novel.

English 250. *Studies in Modern Poetry* *3 credits*
An intensive study of trends and techniques in such major twentieth century poets as Hopkins, Yeats, Auden, Dylan Thomas, Frost, Stevens and Eliot.

English 252. *Modern British Fiction* *3 credits*
Readings of selected twentieth century novels in the light of the social, political, and intellectual background of the times. Such major British novelists of the century as Conrad, Joyce, D. H. Lawrence, E. M. Forster, Greene, Waugh, Virginia Woolf, and Muriel Spark will be included.

English 254. *Modern Drama* *3 credits*
The development of drama (Continental, British, Irish, and American) from Ibsen to the present day. Among playwrights whose works will be read and studied are: Ibsen, Strindberg, Chekhov, Synge, Yeats, O'Casey, Shaw, Osborne, Pinter, Brecht, Anouilh, Ionesco, Beckett, O'Neill, Anderson, Wilder, Inge, and Albee.

English 256. *American Romanticism and Transcendentalism* *3 credits*
Studies in the major works of Cooper, Poe, Hawthorne, Emerson, and Melville.

English 257. *American Realism and Naturalism* *3 credits*
Studies in the major works of Twain, Crane, Norris, James, and Howells.

English 259. *Twentieth Century American Fiction* *3 credits*
Modern American novels and short stories. The period from 1900 to the present will be covered, emphasizing such major figures as Fitzgerald, Hemingway, Faulkner, Steinbeck, and Barth.

(N.B. Each of the following seminars will involve concentrated study of a single literary figure, movement, or genre. The particular subject of each seminar will vary each year.)

English 270. *Seminar: Special Studies in English Literature* *3 credits*

English 271. *Seminar: Special Studies in American Literature* *3 credits*

English 272. *Seminar: Special Studies in Comparative Literature* *3 credits*

English 280. *Afro-American Literature* *3 credits*
An introductory survey of Afro-American literature, stressing an in-depth examination of the works of Afro-Americans in poetry, song, drama, the novel, the essay, and the slave narrative. Emphasis will be placed on the relationship between the Afro-American experience and the African experience. The period covered is from the founding of the American nation to the present day.

A tentative cycle indicating when courses will be offered is available from the Department. Please see the chairman.

Department of History

Dr. Michael D. DeMichele, Chairman
Dr. John L. Earl III, Director of Graduate Program

DEPARTMENTAL REQUIREMENTS

The applicant must possess the baccalaureate degree and should as an undergraduate have completed a minimum of 18 upper-division semester hours in History. The applicant should have a Quality Point Index of not less than 2.6 (based on 4.00 scale) in all his undergraduate history courses or have attained a score of 500 on the General Aptitude Test of the G.R.E. or an equivalent score in other nationally recognized tests. The student will be considered as non-matriculated until the successfull completion on nine graduate credits in History and formal application to the Department for candidacy. In the event that significant gaps occur in the student's undergraduate program, additional undergraduate history courses may be specified by the mentor. The student's acceptance as a candidate will be recommended by the Department, after their appraisal of the student's capability for continued growth as a graduate student, and approved by the Dean of the Graduate School. No student may continue to take credits toward the degree unless notified of acceptance as a candidate.

MASTER OF ARTS IN HISTORY

A. *Duration of Candidacy*: From formal promotion to candidacy, the student will have six calendar years in which to complete the requirements for the degree. For extraordinary reasons, extensions of this time limit may be granted by the Dean of the Graduate School upon recommendation by the Department Chairman.

B. *Course Requirements*: The Master of Arts in History requires successful completion of 30 graduate credits. Of these, 18 credits will be in History, and 12 course credits will be from the areas of Political Science and Social Studies which will serve as the minor field for the degree.

C. *A Thesis or Non-Thesis Program*: A thesis or non-thesis program for the M.A. degree would be at the option of the student. Both the thesis and non-thesis programs entail successful completion of 30 graduate credits (18 in the major and 12 in the minor), and a successful comprehensive examination in the field. The thesis program, however, will require the student to complete successfully a total of 27 course credits and to present an acceptable thesis for which three credits will be granted. The thesis topic will determine the area of credit and must be approved by the student's mentor under whose

active direction the thesis shall be satisfactorily completed. The thesis must be approved by a faculty panel assigned by the Chairman of the Department.

D. *Comprehensive Examination*: All candidates for the comprehensive examination in History must have the approval of the mentor, and have completed at least 24 graduate credits in the program. Ordinarily, the comprehensive examination will be a written three hour exam and a one hour oral examination. The exam will be designed and graded by the student's mentor and a faculty panel to test the student's knowledge of the factual and interpretive material basic to the student's field. It will not be limited to the contest material treated in the course work. In fact, the mentor will provide the student with a list of books, required reading beyond the course work as essential background for the comprehensive.

E. *Mentor*: Upon admission to the Graduate School in History, the student will be assigned a mentor who will advise the student of all course work and who, if the program includes a thesis, will direct the student's research and writing of the thesis.

FOUR YEAR A.B./M.A. DEGREE PROGRAM

The Department of History and Political Science offers a special program that enables the qualified student to obtain both a Bachelor's and Master's Degree within four calendar years by accelerating their course of study through judicious use of Intersession and Summer School, and by allowing twelve (12) graduate history credits to be applied to both the A.B. and M.A. degree programs. Students can be conditionally admitted to the program upon matriculation at the University and after approval by the Department and the Deans of the Undergraduate and Graduate Schools. Students already enrolled at the University and transfer students may enter the program on a conditional basis up to the end of the second year of studies with the same approval mentioned above.

During the second year in this program, the student will be evaluated for candidacy to both degrees. The student's acceptance will be recommended by the Department and approved by the Deans of the Undergraduate and Graduate Schools. No student may continue into the third year of the program unless duly notified of acceptance as a candidate. Ordinarily, no student will be admitted to candidacy unless that student has maintained an overall Quality Point Index of 3.0 (based on a 4.00 scale) in all courses and a Q.P.I. of 3.1 in all history courses. The same average should be maintained during the entire four year program. Students who fall below these requirements will be subject to candidacy review before continuation in the program.

Students enrolled in the four year A.B./M.A. Degree Program

are required to complete all other degree requirements specified in the catalogues of both the College of Arts and Sciences and the Graduate School of the University of Scranton.

Course Descriptions - History

Hist. 200 *Science and Methods of Historians* *3 credits*
A study and application of scientific methodology required for gathering, assessing, synthesizing and documenting historical information with special attention given to American historians and historiography.

Hist. 205 *America: From Province to Nation* *3 credits*
An examination of selected topics pertaining to the poliitcal, diplomatic and social history of the American colonies.

Hist. 210 *The Shaping of the American Nation* *3 credits*
An examination of selectic topics in the period from the adoption of the Federal Constitution to the retirement of Andrew Jackson.

Hist. 215 *America's Immigration Experience* *3 credits*
An inldepth look at the immigration and Americanization of selected ethnic groups in U.S. society.

Hist. 220 *American Expansionism* *3 credits*
A study of the expansionist instinct in U.S. foreign policy from the Revolutionary days to modern times.

Hist. 225 *Pivotal Figures in America's Rise to World Power* *3 credits*
A close examination of the lives of several major figures whose contributions, be they in the areas of politics, religion, business, the fine arts, social reform, or invention, changed the United States from a backwater republic to a leader in the family of nations.

Hist. 230 *Conflict, Consensus and Reform: America's Response to Industrialism* *3 credits*
A study of the Civil War and Reconstruction, industrial growth and conflict, the American Black, the reform impulses and the transformation of national politics: Bryan, Roosevelt and Wilson.

Hist. 235 *Conflict, Consensus and Reform: Post Industrial America* *3 credits*
A study of the Great War, the Twenties, the Depression, World War II, the Cold War, and the emergence and erosion of national consensus.

Hist. 240 *American Style in Art and Architecture* *3 credits*
A study of the social and domestic history of the American people from the colonial era to the Twentieth Century through an examination of how Americans developed living patterns and artistic ambiance.

Hist. 250 *The British Experience* *3 credits*
A study and interpretation of the enduring political, cultural, and social heritage of Britain from the Age of Victoria to the end of Empire.

Hist. 255 *The Soviet Achievement* *3 credits*
An analysis of the social, cultural, economic and political accomplishments of the U.S.S.R.

Hist. 260 *Modern Germany* *3 credits*
A detailed study of modern Germany from the formation of the German Empire to the demise of Adolph Hitler and the reconstruction of Germany after World War II.

Hist. 265 *Artistic and Cultural Achievements of Modern Europe* *3 credits*
A view of the major accomplishments of European Civilization with an emphasis on the various artistic and cultural developments of Europe in the late Nineteenth and early Twentieth Centuries.

Hist. 270 *Anatomy of Modern Europe* *3 credits*
An analysis of the major institutions, problems and accomplishments of Europe since the end of World War II.

Course Descriptions - Political Science

P.S. 310 *Pragmatic Federalism* *3 credits*
Evolutian, development and changes in federal and state relations, with an analysis of the forces influencing these changes in contemporary times.

P.S. 315 *American Constiution and Civil Liberties* *3 credits*
Emphasis on the basis of Americn constitutionalism, the development of the judicial process, the problems of civil liberties and religious freedom.

P.S. 320 *Urbanization of America* *3 credits*
An analysis of the transformation of American Society from Agrarian-rural to an industrial-urban system.

P.S. 325 *Decision-Making in America* *3 credits*
A study of decision-making in American society and a comparison of empirical studies of decision making with classical and contemporary theories of democracy.

P.S. 330 *American Foreign Policy in the Nuclear Age* *3 credits*
An assessment of American foreign policy and diplomacy in the decades since World War II.

P.S. 335 *The Fate of the Atlantic Community* *3 credits*
An analysis of the problems that have blocked the Atlantic Union, and a study of the theoretical and institutional development of the Atlantic partnership between the United States and Europe.

Course Descriptions - Social Studies

(Please refer to listings under Education Department)

Department of Chemistry

Dr. Robert A. Sallavanti, Chairman and Director of Graduate Program

DEGREE PROGRAMS

Master of Arts programs are offered in two major fields: chemistry and biochemistry. The Master of Arts is a thesis degree that is a prerequisite for subsequent work toward the doctoral degree and an important preparation for research activity in industry or elsewhere. Its requirements include thirty credit hours made up of classroom courses, a seminar and independent research under the direction of a faculty member. A language competency examination must also be completed.

Master of Science programs are offered in chemistry, bio-chemistry and chemistry for Secondary School Teachers. The Master of Science is a terminal degree intended to upgrade the student's professional competency and capabilities for work in industry or secondary education. Thirty credit hours of classroom work are required, but not a thesis, a seminar or a language competency examination.

DEPARTMENTAL REQUIREMENTS

Applicants for the Master of Arts or Master of Science programs in chemistry or biochemistry must possess, or be in close proximity to possessing, a baccalaureate degree which includes full-year courses in General and Analytical Chemistry, Organic Chemistry, Physical or Biophysical Chemistry, General Physics and Mathematics through Integral Calculus. Applicants for the Master of Science program for Secondary School Teachers must have, beside the baccalaureate degree, at least a full year of General and Analytical Chemistry, College Physics and Mathematics. A Grade Point Average of 2.5 is required both overall and in the science courses.

Certain of these requirements may be waived at the discretion of the Department Chairman. Students with limited undergraduate course deficiencies may be admitted with the approval of the Chemistry Faculty on condition that such deficiencies are corrected concurrently with their initial graduate courses.

COURSE REQUIREMENTS

A. Core Courses

Core Courses are those, within each program, that are required of all candidates. Since these are the fundamental courses that form the basis of the comprehensive examinations, it is essential that they

be taken first in any candidate's program before any electives. Neglect of this requirement can result in a postponement of a timely reception of the degree.

Core Courses for the Master of Arts and Master of Science degrees in chemistry are as follows: Chem. 202, 211, 221, 222, 241 and 242.

Core Courses for the Master of Arts and Master of Science degrees in biochemistry are as follows: Chem. 211, 222, 233, 234 and 242. With permission, Chem. 245-246 may be substituted for Chem. 242 for those with a less complete background.

Core Courses for the Master of Science degree for Secondary School Teachers are as follows: Chem. 202, 211, 222, 245, 246, 257 and 258.

B. Electives

Elective courses beyond the Core Courses will be chosen from among the graduate courses offered by the Chemistry Department. In the Master of Science program for Secondary School Teachers, however, a mentor may allow the student to fulfill his requirement with upper division undergraduate courses in the chemistry or other science or mathematics department that meet his special needs.

C. Candidacy

Candidacy for the degree is awarded by the Department upon the successful completion of three Core courses of graduate work.

D. Comprehensive Examinations

Candidates for the Master of Arts or Master of Science degrees in chemistry and biochemistry must successfully complete comprehensive examinations in each of the six Core Courses required of their programs. No comprehensive examination may be taken until the corresponding Core Course has been completed. Students may repeat failed portions of these examinations twice. All six parts of the examination must be passed before graduation is possible.

No comprehensive examinations are required of candidates for the Master of Science degree for Secondary School Teachers.

E. Course Load

The normal full-time semester load for a graduate student is 9-12 credits. The degree will ordinarily require 3-4 semesters of work.

F. Thesis

Master of Arts candidates in chemistry and biochemistry are required to do independent research and write a thesis.

Early in the program, each student should choose a research director, decide with him on a project and then progressively carry

out the necessary laboratory experimentation. When the work is complete, it must be reported in a thesis which is publicly defended before the Chemistry Department. The credits awarded for the thesis (Chem. 255) can vary from 2 to 6, depending on the need of the student.

A laboratory preparation course (Chem. 218, 228, 238) may be required as a prerequisite to thesis research if a deficiency in the laboratory background of a candidate warrants it.

GRADUATE FELLOWSHIPS

A limited number of teaching assistantships are available in the Department of Chemistry. Fellows, who are and must remain M.A. candidates, are responsible for four three-hour undergraduate laboratory sections a week during the two regular semesters. Compensation includes a stipend and remission of tuition and most fees. Application for assistantships must be made to the Graduate School of the University.

COMBINED UNDERGRADUATE-GRADUATE PROGRAM

A special program leading to the Master's degree in Chemistry or Biochemistry is offered to qualified University of Scranton undergraduate students, which makes it possible to obtain both the Bachelor of Science and Master of Arts degrees within a period of four or five years. Interested students should contact the Chairman of the Chemistry Department for details.

Course Descriptions - Chemistry

Chem. 202. *Advanced Inorganic Chemistry* *3 credits*
Theoretical concepts and their application to the reactions and structure of inorganic compounds. Introduction to co-ordination chemistry. Coordination chemistry and related topics; physical methods, reaction mechanisms.

Chem. 211. *Advanced Analytical Chemistry* *3 credits*
Theory and description of modern analytical techniques with emphasis on physico-chemical measurements, including the limitation of physical and chemical separation techniques, and rates and mechanisms of analytical reactions.

Chem. 213. *Electro-Analytic Chemistry* *3 credits*
Theory and applications of potentiometry, polarography, amperometry, coulometry, and other analytical methods.

Chem. 214. *Applied Spectroscopy* *3 credits*
The use of ultraviolet, visible spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and mass spectroscopy as tools for the identification of organic compounds. The course will include laboratory work using these instruments.

Chem. 218. *Analytical Methods* *12 credits*
Laboratory practice with special analytical apparatus and methods used for process and control, and for research. (Lab course - Lab fee charged).

Chem. 221. *Structural Organic Chemistry; Woodward-Hofmann Theory* *3 credits*
A discussion on an advanced level of the most important features of structural theory, such as stereochemistry, aromaticity, resonance and modern methods of structural determinations. Applications of Woodward-Hofmann theory are also discussed.

Chem. 222. *Mechanistic Organic Chemistry* *3 credits*
A consideration of the most important means of determining the detailed pathways of organic reactions. Substituent effects on rates of reactions are discussed. Mechanisms proceeding via polar, nonpolar and radical intermediates, including some biochemical reactions, are considered.

Chem. 223. *Theoretical Organic Chemistry* *3 credits*
A study of methodology of determining the relationship of structure to reactivity, the mechanisms of important reaction types and the factors that can influence rates and pathways. (Prerequisite: Chem. 222)

Chem. 224. *Heterocyclic Chemistry* *3 credits*
An introductory survey of the structure and reactivity of important types of heterocyclic compounds. (Prerequisite: Chem. 222)

Chem. 228. *Organic Preparations* *1 credit*
Laboratory performance of a number of typical organic syntheses, with an emphasis on the most modern techniques. (Lab course - Lab fee charged).

Chem. 233-234. *Biochemistry* *6 credits*
Chemistry of carbohydrates, lipids, proteins and nucleic acids. Mechanisms and kinetics of enzyme action. A study of the metabolism, digestion and absorption of carbohydrates, lipids, amino acids and proteins.

Chem. 235. *Biophysical Chemistry* *3 credits*
Topics to include transport phenomena (at both the cellular and the molecular level), optical, mechanical and electric properties of proteins, theory of liquids and solutions, mathematical models in biology, and radiation biophysics. Choice and depth of topics will vary with the interests and abilities of the class. Prerequisite: Chem. 245-246 or equivalent.

Chem. 236. *Biochemical Genetics* *3 credits*
Principles and theories of heredity, with special emphasis on biochemical genetics, with their applications to the genetics of microorganisms and human heredity.

Chem. 237. *Enzymology* *3 credits*
A course on the chemical nature of enzymes with relation to mechanisms of enzyme action and kinetics. Purification and identification of enzymes and isozymes. Biochemical and physiological aspects of enzymes in living systems.

Chem. 238. *Biochemical Preparations* *1 credit*
Application of modern theories to biological chemical methods. Spectroscopy, chromatography, polarimetry, electrophoresis, ionophoresis. Applied problems in biochemical research using modern biochemical methods. (Lab course - Lab fee charged).

Chem. 239. *Immunological Chemistry* *3 credits*
Physical-chemical properties of antibodies and antigens and their interactions. Emphasis is placed on applications in clinical and diagnostic procedures and on their use as tools in biochemical research.

Chem. 241. *Advanced Physical Chemistry I* *3 credits*
Quantum mechanics and quantum chemistry, including ab initio approaches to classic problems, perturbational theory, variational theory, time-dependent phenomena and specific applications of molecular orbital theories to organic molecules. Generalized organics of molecules. Spectroscopic applications.

Chem. 242. *Advanced Physical Chemistry II* *3 credits*
A comprehensive treatment of thermodynamics, including electrochemistry, thermochemistry and chemical equilibrium, together with an introductory consideration of the concepts of chemical kinetics. Some introduction to the concepts of statistical mechanics and their application to thermodynamics will also be given.

Chem. 245-246. *Intermediate Physical Chemistry* *6 credits*
A review of the fundamentals of chemical principles, and a treatment of the mathematics requisite for such review. Two semesters.

Chem. 251. *Seminar* *1 credit*

Chem. 252. *Introduction to Research* *1 credit*
A thorough review of the literature of Chemistry in preparation for active laboratory research. The use of such sources as Chemical Abstracts, the Journal Literature, Patent Literature and "Beilstein's Handbuch" will be stressed.

Chem. 255. *M.A. Thesis* *variable up to 6 credits*

(Lab Fee Charged — $15.00 per credit)

Chem. 257-258. *Chemistry on a Secondary Level* *6 credits*
This course is treated on a Lecture-Seminar basis with respect to content and methods dealing with Chemistry in the secondary school curriculum. Two semesters. This is similar to N.S.F. course in Chemistry. Only 6 credits total from this series may be claimed for degree.

Chem. 261. *Polymer Chemistry* *3 credits*
Introduction to the physico-chemical aspects of polymers: emphasis on structure, properties and application; thermodynamics of polymer solutions; statistical mechanical consideration of polymers; theories of rubber elasticity.

Chem. 263. *Agricultural Chemistry I* *3 credits*
Physical and chemical properties of soil. Improvement of soil for the purpose of plant production by means of chemicals, microorganisms and wastes. Chemical synthesis in plants.

Chem. 264. *Agricultural Chemistry II* *3 credits*
Biochemistry of plant growth and plant disease. The nature of pesticide action, growth stimulation and inhibition. Energy relations in the synthesis and production of living organisms. (Although Chem. 263 is not a prerequisite for Chem. 264, it is recommended that both courses be taken with Chem. 263 preceding Chem. 264).

Chem. 265. *Special Topics* *1 credit*
A biochemical approach to chemistry including the structure, function and mechanism of hormonal action and control in normal and diseased states. The course is conducted on a seminar basis. Grading may be administered on a Pass-Fail basis.

Chem. 268. *Statistical Analysis for Chemists* *3 credits*
Measures of central tendency and more sophisticated techniques, including correlation, regression analysis, analyses of single and multi-variables and chi square evaluation. Experimental designs will also be considered, including modified Plockett-Berman techniques.

Department of Physics and Electronics

Dr. Paul F. Fahey, Chairman and Director of Graduate Program

DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the Baccalaureate degree in Physics or Electronics or a related field in Engineering. An overall quality point average of 2.5 is required with a 2.7 average in the Physics and Mathematics courses. The applicant will ordinarily be expected to have completed as an undergraduate at least 24 credits in Physics or Electronics. The Physics requirement includes at least three upper division courses in Mechanics, Electricity and Magnetism and Atomic Physics. The Electronics requirement includes at least three upper division courses in Electricity and Magnetism, Electronics Principles and Circuits and Advanced Electronics. Besides these requirements, the applicant is expected to have at least one Mathematics course beyond Differential Equations, Advanced Calculus being preferred. Students with limited course deficiencies in undergraduate preparation may be admitted with the approval of the Physics faculty but must correct such deficiencies concurrently with their initial graduate courses. Matriculation to candidacy in the Graduate School will be deferred until admission requirements have been successfully completed, and the applicant has successfully completed at least two courses in the Graduate Division.

COURSE REQUIREMENTS

A. Master of Arts in Physics

Candidates for the degree of Master of Arts in Physics will be required to complete successfully 30 graduate credits and pass a comprehensive examination. Included in these 30 credits is a research dissertation for which a maximum of six credits may be allowed.

Physics courses 264 and 265 along with four courses from 268, 269, 260, 261, 278 and 279 will be ordinarily required of all candidates for this degree.

B. Master of Science in Physics

Candidates for the degree of Master of Science in Physics will be required to complete 30 graduate credits in approved courses and pass a comprehensive examination. Of these credits 18 to 24 must be in Physics and must include Physics 264 and 265. Six to twelve credits, if approved by the Physics department, may be followed in allied Science or Mathematics courses.

C. Master of Science in Solid State Electronics

Candidates for the Master of Science in Electronics will be required to complete 30 graduate credits in approved courses and pass a comprehensive examination. The five Electronics courses 270, 274, 275, 276 and 277 will ordinarily be required of all candidates along with Physics courses 264 and 278. Appropriate electronics laboratory work will also be incorporated into each student's program of study.

D. Master of Science — Secondary Education

Candidates for the Master of Science degree in the Secondary Education program must complete 33 graduate credits and pass comprehensive examinations. Of these 33 credits, 15 will be required in Physics and 18 in graduate education. Students in this program will have mentors assigned from both the Physics and the Education departments to maintain a close liaison with both departments during their program of studies.

Course Descriptions - Physics and Electronics

Math. 252. *Mathematical Physics I* *3 credits*
Determinants and Matrices. Fourier Series. La Place Transformations. Introduction to Partial Differential Equations and Boundary Value Problems. Special Functions of Physics including Bessel Functions, Legendre Polynomials, etc.

Math. 253. *Mathematical Physics II* *3 credits*
Functions of a Complex Variable. Infinite Series in the Complex Plane. Theory of Residues. Conformal Mapping. Fourier and La Place Transforms. Advanced Partial Differential Equations. Boundary Value Problems in Physics. Green's Functions.

Physics 260. *Advanced Mechanics I* *3 credits*
Lagrange's and Hamilton's equation for point objects. Hamilton's Principle and the Calculus of Variations. Two body central force motion. Linear vector transformations. Kinematics of rigid body motion. Corequisite: Physics 253.

Physics 261. *Advanced Mechanics II* *3 credits*
Rigid body equations of motion. Special Theory of Relativity in the covariant four dimensional notation. Canonical transformations and the Hamilton-Jacobi theory. Theory of small oscillations. Prerequisite: Physics 260.

Physics 264. *Quantum Mechanics I* *3 credits*
Basic postulates of Quantum Mechanics. The Schrodinger Wave Equation. Solution of the Wave Equation in One Dimension. The Harmonic Oscillator. Angular Momentum and Spin. Prerequisite: Physics 253.

Physics 265. *Quantum Mechanics II* *3 credits*
Central Forces. The Hydrogen Atom. Matrix Representations and Transformations. Perturbation Theory. Many Body Problems. Identical Particles. Scattering. Prerequisite: Physics 264.

Physics 268. *Statistical Physics I* *3 credits*
Interpretation of thermodynamics in terms of microscopic phenomena via kinetic theory and the statistics of Maxwell-Boltzmann, Fermi-Dirac, and Bose-Einstein. The application of both classical and quantum statistics to systems of non-interacting particles. Prerequisite: Physics 253.

Physics 269. *Statistical Physics II* *3 credits*
Statistical mechanics of systems of interacting particles and other special topics, e.g. imperfect gases, liquids, ferromagnets, electrons in solids, transport equations. Prerequisite: Physics 268.

Electronics 270. *Solid State Electronics I* *3 credits*
The crystal state of matter. Quantum mechanical and statistical foundations of conduction in solids by electrons and holes. Properties of metal alloys. Band theory of solids. (Corequisite - Physics 264)

Electronics 271. *Solid State Electronics II* *3 credits*
Theory of semiconductors and semiconductor devices. Application of physical theory to semiconductor device design. Optical and magnetic properties of solids. Special topics. (Prerequisite, Elec. 270)

Electronics 274. *Linear Circuits and Feedback* *3 credits*
Advanced transistor circuits, operational amplifiers, comparators, oscillators, signal generators and other applications of operational amplifiers with feedback theory.

Electronics 275. *High Frequency and Pulse Circuits* *3 credits*
Review of Electromagnetic wave theory. Transmission line and wave guide theory. Measurement of high frequency signals. Introduction to the circuit configurations used for the generation and processing of pulse, and switching waveforms.

Electronics 276. *Digital Electronics Systems* *3 credits*
Analog to digital and digital to analog devices, shift registers, memories, input and output interfacers leading up to microprocessors.

Electronics 277. *Application of Digital Electronics to Information Theory* *3 credits*
Advanced digital circuits involved in Transmission of data. Information theory as applied to modulation, encoding, decoding and error correcting.

Physics 278. *Electromagnetic Theory I* *3 credits*
Electrostatics, Gauss's Law, Poisson and Laplace equations, Boundary value problems. Maxwell's equations. Prerequisite: Physics 253.

Physics 279. *Electromagnetic Theory II* *3 credits*
Radiating systems. Special theory of relativity. Relativistic kinematics. Radiating charges, Special topics. Prerequisite: Physics 278.

Physics 282. *Nuclear Physics I* *3 credits*
The study of nuclear models and force theories. Natural and induced radioactivity. Theory and measurement of alpha, beta, and gamma decay. Theory of the neutrino. Prerequisite: Intermediate course in Modern Physics.

Physics 283. *Nuclear Physics II* *3 credits*
Nuclear structure, nuclear spin, nuclear magnetic effects. Nuclear reactions with protons, alpha particles, and neutrons; induced radioactivity with neutrons, sources of neutrons, neutron detectors, nuclear fission. Prerequisite: Physics 282.

Physics 284. *Introduction to Biophysics* *3 credits*
Topics include the theory of transport phenomena that are significant both in the living cell and in the physical characterization of bio-macromolecules, from the standpoint of statistical mechanics and non-equilibrium thermodynamics. Molecular resonance phenomena and microscopic theories of pure liquids and solutions. Radiation in Biology, Prerequisite: Mathematics through Calculus.

Physics 286. *Plasmas* *3 credits*
A course in the physics of the plasma state. Dynamics of charged particles in electric and magnetic fields. Plasma characteristics such as density, Debye length, and cyclotron frequency. Plasma kenetic theory. Transport properties of plasmas. Plasma oscillations. Propagation of electromagnetic waves in plasmas. Plasma turbulance and collision processes.

Physics 290 and 291. *Experimental Methods* *3 credits*
Experiments in optical spectroscopy, infrared spectrophotometry, nuclear magnetic resonance, laser optics, X-Ray diffraction, vacuum evaporation, mass spectroscopy, and beta and gamma ray spectrometry. Each student is expected to perform representative experiments in selected areas listed above and to pursue at least one area in depth in order to make some significant improvements or contributions to techniques. Students will make their own study or references to experimental methods and equipment under guidance and write a comprehensive paper in their work.

Physics 294 and 295. *Selected Topics for Independent Study* *3 credits*
Similar in scope to experimental methods except that the student will investigate in depth the theoretical aspects of selected topics in Physics. A comprehensive paper on the topics investigated will be required of the student.

Physics 237.4. *Teaching of Physics* *3 credits*
Use of modern methods and classroom aids in the teaching of Secondary School Physics. Accent on recent developments in the field of Physics. Introduction to some of the research tools used in Physics.

Physics 296 or 297. *Master's Thesis* *Variable*
Based on theoretical or experimental research. Student subject to oral examination by Physics Staff members.

Physics 298 or 299. *Seminar* *1 credit*

MASTER OF SCIENCE IN GENERAL SCIENCE

Dr. Eugene A. McGinnis, Director and Mentor for General Science

DESCRIPTION OF PROGRAM

The Master of Science degree in General Science is assumed to be a terminal degree. It is provided so that teachers at the elementary and junior high level will be able to update their science knowledge and thus be better able to handle the recently introduced curricula with its science content. For science teachers at the secondary level it provides an opportunity to become versed in more than one area of science and consequently enhance their teaching skills.

DIVISION REQUIREMENTS

The applicant must, at the time of application, possess a baccalaureate degree, with an overall Quality Point Index of at least 2.5. The applicant will not be considered to be a candidate for the degree until he has successfully passed three of the core courses. No student may continue to take credits toward the degree until he has been notified of his acceptance as a candidate.

COURSE REQUIREMENTS

A. Master of Science in General Science

Candidates for the M.S. in General Science must successfully complete thirty (30) course credits. The core courses, of which, normally four are required, are: Science 201, 202, 203, 204, 205 and 206. Additional elective courses totalling eighteen credits complete the program. These courses may be chosen, with the approval of the advisor, from course offerings in Biology, Chemistry, Physics, or Mathematics. A scholarly paper, with topic approved by mentor, is also required.

B. Master of Science in General Science - Secondary Education

Candidates for the Master of Science degree in the Secondary Education program must complete 33 graduate credits. Of these 33 credits, 15 will be required in General Science and 18 in Graduate Education. Students in this program will have mentors assigned from both the Physics and the Education departments to maintain a close liaison with both departments during their program of studies. A scholarly paper, with topic approved by mentor, is also required.

Course Descriptions - General Science

COURSE DESCRIPTIONS

Sci. 201. *History and Philosophy of Science* *3 credits*
This course provides an overview of developments in Physical Science from the beginning to the latest developments in Nuclear Energy. It concerns itself not only with the historical aspects of this development, but also with the philosophical implications and socio-cultural effects. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 202. *Scientific Developments Leading to the Space Age* *3 credits*
Introduction to Newton's Laws, conservation of momentum and energy. Study of Rotational motion. Study of harmonic motion and transfer of energy by waves. Probability and statistical concepts in Human affairs. Heat and Thermodynamics. Electricity and Magnetism. History and development of space science. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 203. *Modern Physics and its Impact on Man's Progress* *3 credits*
Theory of Relativity. Transition from determinism to indeterminism. Birth of Modern Physics. Bohr atom. Wave Mechanics. Radioactivity and the Atomic Nucleus. Overall effect of science on the progress of man. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 204. *Chemical Concepts and Their Significance in Life* *3 credits*
Nature of chemical bonds and reactions. Chemistry of carbon as an organic basis for living organisms. Organic, inorganic, and Physical chemistry in relation to the origin and continuance of life. Significance of chemical principles in the interaction between living organisms and their environment. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 205. *Chemical Compounds as a Basis for Life* *3 credits*
Biochemical production, function, and nature of the building blocks for the living cell. Chemistry of heredity and information systems. Energy conversions in the living cell. Biochemical aspects of the interaction between organisms, environment and drugs. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 206. *Biological Structure and Function of Living Organisms* *3 credits*

Molecular, psychological and morphological levels of organizations. Differentiation, division and growth of cells. Biological and psychological aspects of genetics, reproduction and ecology. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 207. *Geology* *3 credits*

The earth: its structure, composition, and agents of construction and destruction. Evolution of the earth and the development of life upon it. Identification of rocks and minerals. Interpretation of topographic and geologic ages.

Sci. 208. *Astronomy* *3 credits*

Survey of solar systems, stars and galaxies. Observational basis of Astronomy. Discussion of artificial satellites and space vehicles as a modern method of obtaining scientifc information. Opportunity for astronomical observation will be provided.

Sci. 209. *Meteorology* *3 credits*

Study of the atmospheric and the principles associated with Atmospheric changes. Methods for observing and recording weather data. Reading and interpreting weather maps. Workshop approach used for part of the course.

Sci. 210. *Science and the Human Environment* *3 credits*

The effects of the technological, scientific and industrial progress on air, land and water resources of the human environment will be studied. Problems in each of the resource areas will be discussed in detail. Lecture-Demonstration.

Sci. 211. *Energy and Environment* *3 credits*

The primary goal of this course is to provide a quantitative description of the twin crises of energy and environment. The secondary goal is to demonstrate how science can and must contribute to the understanding and the solution of these complex societal problems. It is hoped that the students taking this course will be led to distinguish between reasoning based on science and emotionalism often associated with propaganda and polemics linked to these crises. Lecture - demonstration of solar energy techniques and systems. Workshop approach used for part of the course.

Sci. 212. *The Chemistry and Action of Drugs* *3 credits*

Introductory study of physiological and psychological effect of commonly used drugs on humans. Drug action in relation to molecular biological structure and function.

FACULTY DIRECTORY

OFFICERS OF THE UNIVERSITY CORPORATION

J. A. Panuska, S.J., President
Marilyn Coar, Secretary
Robert T. Ryder, Treasurer

Officers of Administration

J. A. Panuska, S.J. (1982)
President of the University (1982)
Professor of Biology (1982)
B.S., Loyola College;
S.T.L., Woodstock College;
Ph.L., Ph.D., St. Louis University

Vincent Ponko, Jr. (1978)
Vice President for Academic Affairs (1978)
Professor of History (1978)
A.B., Brown University;
M.A., DePaul University;
Ph.D., Loyola University of Chicago

Harry B. Strickland (1963)
Dean of the Graduate School (1969)
Associate Professor of Business Administration (1968); B.S., St. Vincent's College; M.L., Ph.D., University of Pittsburgh

William J. Parente (1970)
Dean of the College of Arts and Sciences (1970)
Professor of Political Science (1973)
A.B., Xavier University;
Ph.D., Georgetown University

Henry N. Amato (1977)
Dean, School of Management
Associate Professor of Business Administration (1982)
B.S., Southeastern Louisiana University;
M. S., Southeastern Louisiana University;
Ph.D., Tulane University

Charles J. Buckley, D. Et U.* (1947)
Dean of the Hanley College (1963)
Associate Professor of Business Administration (1968)
B.S., University of Scranton;
M.B.A., Doctoral Studies, New York University

John S. Flanagan (1974)
L/Colonel, U.S. Army - Ret.
Vice President for Business and Management (1974); Lecturer in Business Administration (1974)
B.A., College of William and Mary;
M.S., University of Alabama

Robert T. Ryder, D. Et U.* (1946)
Treasurer (1974)
Vice President for Finance (1982)
Lecturer in Accounting (1963)
B.S., M.B.A., University of Scranton

John R. Gavigan, D. Et U.* (1950)
Vice President for Student Affairs (1976)
A.B., University of Scranton

Thomas A. McGoff (1964)
Vice President for Development (1976)
B.S., University of Scranton

Bernard R. McIlhenny, S.J. (1958)
Dean of Admissions (1981)
A.B., M.A., Loyola University, Chicago;
S.T.B., Woodstock College

Thomas D. Masterson, S.J. (1976)
Director of Campus Ministries (1976)
Assistant Professor of History (1976)
A.B., M.A., Fordham University
Ph.L., S.T.B., S.T.L., Woodstock College
M.A., Ph.D., Georgetown University

Kenneth J. Oberembt (1979)
Director of Alumni Memorial Library (1979)
B.A., St. John's University;
M.A., University of Illinois;
M.S., Columbia University;
Ph.D., University of Iowa

*Pro Deo et Universitate Award of Vicennial Service

UNIVERSITY OF SCRANTON
THE GRADUATE FACULTY

Harry B. Strickland (1963)
Dean of the Graduate School
Associate Professor of Business Administration (1968)
B.S., St .Vincent's College;
M.L., Ph.D., University of Pittsburgh

Henry N. Amato (1977)
Associate Professor of Business Administration (1982)
Dean, School of Management
B.S., Southeastern Louisiana University
M.S., Southwestern Louisiana University
P.H.D., Tulane University

Panos Apostolidis (1977)
Associate Professor of Business Administration (1977)
B.B.A., University of Athens
M.B.A., University of Houston
Ph.D., University of Arkansas

Martin D. Appleton, D. Et U.* (1955)
Professor of Chemistry (1964)
B.S., University of Scranton;
M.S., Ph.D., Pennsylvania State University

George V. Babcock, Jr. (1963)
Associate Professor of Economics (1974)
A.B., M.A., Ph.L., Boston College,
M.B.A., New York University,
Doctoral Studies, Cornell University

Galen L. Baril (1975)
Assistant Professor of Psychology (1977)
B.A., University of Nevada
Ph.D., University of Maine

John A. Beidler (1964)
Professor (1976)
A.B., King's College;
M.A. Lehigh University;
Ph.D., Pennsylvania State University

Gerald Biberman (1981)
Assistant Professor of Business Administration (1981)
B.A., M.A., Ph.D., Temple University

Mrigen Bose (1968)
Associate Professor of Business (1977) Administration
B.S., Patna University;
M.S., University of Kentucky;
Ph.D., University of Utah

Everett R. Brown (1975)
Associate Professor of Business Administration (1979)
B.S., Stevens Institute of Technology,
M.B.A., Ed. D., Temple University

Charles J. Buckley, D. Et U.* (1947)
Associate Professor of Business Administration (1968)
Dean of the Evening College (1963)
B.S., University of Scranton;
M.B.A., Doctoral Studies,
New York University

Michael C. Cann (1975)
Associate Professor of Chemistry (1978)
B.A., Marist College, M.A.,
Ph.D., S.U.N.Y. at Stony Brook

Joseph M. Cannon (1959)
Professor of Education (1974)
B.S., University of Scranton;
M.Ed., Doctoral Studies Pennsylvania State University; Licensed Psychologist

Ellen M. Casey (1969)
Professor of English (1981)
B.S. Loyola of Chicago;
M.A., University of Iowa;
Ph.D., University of Wisconsin

Raymond W. Champagne, Jr. (1967)
Professor of History (1981)
A.B., Providence College;
M.S., Duke University;
Ph.D., Loyola University of Chicago

Ying I. Chein (1979)
Associate Professor of Business Administration (1979)
B.S., National Taiwan University
M.S., University of Manitoba
Ph.D., University of Kentucky

Robert L. Clarke (1978)
Assistant Professor of Education (1978)
B.A., King's College
M.A., Seton Hall University
Ed.D., University of Pennsylvania

Frank P. Corcione (1978-79; 1982)
Assistant Professor of Business Administration (1982)
B.A., Moravian College
M.A., Ph.D., Lehigh University

James J. Cunningham (1968)
Associate Professor of Counselor Education (1971)
A.B., King's College;
Ed.M., Ed. D., Rutgers University;
Certified Psychologist

Francis H. Curtis (1966)
Associate Professor of Education (1966)
B.S., M.Ed., Doctoral Studies,
Pennsylvania State University

Thomas W. Decker (1977)
Associate Professor of Human Resources (1982)
B.A., Dickinson College;
M.Ed., University of Virginia;
Ph.D., Ohio State University
Licensed Psychologist

Vito Del Vecchio (1969)
Professor of Biology (1977)
B.S., University of Scranton;
Chairman, Department of Biology (1981)
M.S., St. John's University;
Ph.D., Hahneman Medical College Graduate School

Michael D. DeMichele (1967)
Professor of History (1974)
Chairman, Department of History (1976)
B.S., University of Scranton; M.A., Ph.D., Pennsylvania State University

Peter J. DePaulo (1980)
Assistant Professor of Business Administration (1980)
B.A., Adelphi University
B.A., Ph.D., Bryn Mawr College

Anthony J. DiStefano (1968)
Associate Professor of Physics (1977)
B.E.E., Brooklyn Polytechnic Institute;
M.A., Columbia University; Cand. Ph.D., Stevens Institute of Technology

Joseph C. Dougherty (1967)
Professor of History (1967)
B.A., St. Charles;
M.A., Ph.D., Georgetown University

Joseph H. Dreisbach (1978)
Assistant Professor of Chemistry (1978)
B.S., LaSalle College;
M.S., Ph.D., Lehigh University

John J. Dunstone (1966)
Professor of Psychology (1974)
B.S., Pennsylvania State University;
M.S., Ph.D., University of Massachusetts

John L. Earl, III (1964)
Professor of History (1972)
B.S., M.A., Villanova University;
Ph.D., Georgetown University

Joseph T. Evans, D. Et U.* (1953)
Professor (1965)
B.S., University of Scranton;
M.S., Ph.D., The Catholic University of America

Paul F. Fahey (1968)
Professor of Physics (1978)
Chairman, Department of Physics (1982)
B.S., University of Scranton;
M.S., Ph.D., University of Virginia

Matthew C. Farrell (1967)
Professor of Education (1976)
B.A., M.S., University of Scranton;
Ph.D., Fordham University

John Q. Feller (1969)
Professor of History (1976)
A.B., Loyola College;
M.A., Ph.D., Catholic University

Joseph A. Fusaro (1974)
Acting Associate Dean, Graduate School
Associate Professor of Education (1978)
B.A., Rider College; M.Ed., University of Vermont; Ed.D., State University of New York at Albany

Thomas W. Gerrity (1976)
Assistant Professor of Education (1976)
B.S., University of Pennsylvania
M.S., University of Scranton
Ed.D., Columbia University

A. John Giunta (1960)
Professor of Business Administration (1967)
B.S., Harpur College;
M.S. Ph.D., Syracuse University

Leonard G. Gougeon (1974)
Professor of English (1982)
B.A., St. Mary's University, Halifax;
M.A., Ph.D., University of Massachusetts

Ralph W. Grambo (1973)
Associate Professor of Business Administration (1978)
B.S., University of Scranton; M.B.A., Ph.D., University of Pennsylvania

Ronald J. Grambo (1976-77; 1980)
Assistant Professor of Business Administration (1980)
B.A., M.B.A., University of Scranton
Ph.D., Pennsylvania State University

Maurice I. Hart, Jr. (1963)
Professor of Chemistry (1971)
A.B., Maryknoll College;
M.S., Ph.D., Fordham University

John M. Hill (1981)
Assistant Professor of English (1981)
B.A., Central College
M.A., University of Illinois
M.F.A., University of Iowa
Cand. Ph.D., University of Illinois

William B. Hill, S.J. (1946-47; 1969)
Professor of English (1969)
A.B. Georgetown University
Ph.L., Woodstock College
S.T.L., Weston College
M.A., Ph.D., Fordham University

Frank X.J. Homer (1968)
Associate Professor of History (1976)
A.B., University of Scranton;
M.S., Ph.D., University of Virginia

Daniel J. Houlihan, D. Et U.* (1947)
Professor of Business
Administration (1969)
B.S., University of Scranton;
M.S., Columbia University;
J.D., Temple University

Robert F. Hueston (1968)
Associate Professor of History (1976)
A.B., College of Holy Cross;
M.A., Ph.D., University of Notre Dame
Mary A. Jansen (1977)

Riaz Hussain (1967)
Associate Professor of Physics (1974)
B.S., Forman College;
M.S., University of Panjab;
Ph.D., Johns Hopkins University

Christine Herrick Hutt (1977)
Associate Professor of Education (1982)
B.A., M.Ed., Pennsylvania State
University;
Ph.D., University of Pittsburgh

Bernard J. Johns, D. Et U.* (1961)
Associate Professor of
Mathematics (1979)
A.B., Wilkes College; M.A., Bucknell
University; Doctoral Studies,
University of Illinois

Francis X. Jordan (1966)
Associate Professor of English (1976)
A.B., M.A., University of Scranton;
Ph.D., St. Louis University

Prasadarao V. Kakumanu (1978)
Associate Professor of Business
Administration (1978)
B.S., Andhra University
M.S., Patna University
M.A., Delhi University
Ph.D., Cornell University

John R. Kalafut (1965)
Professor of Physics (1974)
B.S., University of Scranton;
M.S., University of Delaware

Raymond L. Kimble (1973)
Associate Professor of Reading (1973)
Chairman Department of
Education (1981)
B.S., Mansfield State College;
M.S., State University of New York,
Cortland; Ed. D., Arizona State
University

Raymond G. Laverdiere (1979)
Assistant Professor of Business
Administration (1979)
B.S., M.B.A., University of Rhode Island
Cand. Ph.D., Pennsylvania State
University

Francis Marino (1980)
Assistant Professor of Chemistry (1980)
B.S., M.A., University of Scranton;
M.S., Ph.D., University of Massachusetts

Michael Marino (1965)
Professor of Education (1970)
B.S., M.S., Brockport State College;
Ed.D., University of Buffalo

Thomas D. Masterson, S.J. (1976)
Assistant Professor of History (1976)
Ph.L., Th.L., Woodstock College;
M.A., Fordham University;
Ph.D., Georgetown University

Eugene J. McGinnis, D. Et U.* (1948)
Professor (1963)
B.S., University of Scranton;
M.S., New York University;
Ph.D., Fordham University

John M. McInerney (1966)
Professor of English (1977)
A.B., LeMoyne College; M.A.,
Ph.D., Loyola University of Chicago

John P. McLean, D. Et U.* (1940)
Professor of Business
Administration (1972
B.S., University of Scranton

John E. Megley, III (1981)
Professor of Business
Administration (1981)
B.A., University of Illinois;
M.B.A., Roosevelt University;
Ph.D., University of Missouri

Louis D. Mitchell (1961)
Professor of English (1968)
B.A., M.A., Fordham University;
Ph.D., New York University

Francis J. Murray (1965)
Associate Professor of Physics (1977)
B.S., Iona College;
M.A., St. John's University;
Ph.D., New York University

John J. Murray (1957)
Professor of English (1968)
B.S., University of Scranotn; M.A.,
The Catholic University of America;
Ph.D., New York University

Hong V. Nguyen (1979)
Assistant Professor of Business Administration (1979)
B.S., State University of New York at Brookport; M.A., Ph.D., State University of New York at Binghamton

John J. O'Malley, Jr. (1968)
Associate Professor of Psychology (1971)
Chairman, Department of Psychology (1978)
B.S., University of Scranton;
M.S., Ph.D., Ohio University

Peter P. Poole (1966)
Associate Professor of Business Administration (1976)
B.S., M.B.A., Northeastern University;
Doctoral Studies, New York University

John J. Quinn, S.J., D. Et U.* (1956)
Professor of English (1968) (1975)
A.B., Holy Cross College! M.A., Fordham University; S.T.B., Woodstock College; Ph.L., Weston College;
Ph.D., University of London

Joseph L. Quinn, S.J. (1979)
Assistant Professor of English (1978)
A.B., Ph.L., A.M., Fordham University;
S.T.B., Woodstock College;
A.M., Ph.D., Harvard University

William W. Rakauskas (1969)
Professor, Department of English (1979)
B.S., M.A., University of Scranton;
Ed.D., Temple University

George C. Reavy (1977)
Assistant Professor of Business Administration (1979)
B.A., M.S., Wilkes College
Ph.D., Lehigh University

Robert A. Sallavanti (1969)
Professor of Chemistry (1976)
Chairman, Department of Chemistry (1982)
B.S., Wilkes College;
Ph.D., University of Pennsylvania

Thomas L. Scott, S.J. (1970)
Assistant Professor of History (1976)
B.A., M.A., St. Louis University;
Ph.D., University of Wisconsin

Timothy H. Scully, D. Et U.* (1948)
Professor of History (1975)
B.S., M.A., Boston College; Doctoral Studies, Fordham University

John K. Stout (1966)
Associate Professor of Human Resources (1974)
B.S., M.S., Ed.D., Pennsylvania State University; Licensed Psychologist
Certified Rehabilitation Counselor

Joseph A. Szuhay (1964)
Professor (1974); Chairman, Department of Human Resources (1974)
B.S., M.S., Ph.D., University of Iowa;
Licensed Psychologist,
Certified Rehabilitation Counselor

Charles E. Taylor (1974)
Assistant Professor of Computer Science (1974)
B.S., M.B.A., West Virginia University

Charles J. Thoman, S.J. (1953-1955; 1966)
Professor of Chemistry (1973)
B.S., Spring Hill College;
M.S., Fordham University;
S.T.L., Woodstock College;
Ph.D., University of Massachusetts

Joe A. Vinson (1974)
Associate Professor of Chemistry (1978)
B.S., University of California, Berkely;
M.S., Ph.D., Iowa State University

Roger D. Wallace (1976)
Associate Professor of English (1981)
A.B., Butler University;
M.A., Bowling Green University;
Ph.D., University of Michigan

Bernard D. Williams (1962)
Professor of History (1975)
B.S., La Salle College;
M.A., Niagara University

John M. Williams (1978)
Assistant Professor of Human Resources (1980)
B.A., Wilkes College; M. Ed., D. Ed., The Pennsylvania State University
Certified Rehabilitation Counselor

William P. Zahler, Jr. (1973)
Associate Professor of English (1976)
A.B., Ohio Wesleyan University;
M.S., Syracuse University;
M.A., Ph.D., Kent State University

Joseph R. Zandarski, D. Et U.* (1951)
Professor of Business (1971)
B.S., University of Scranton
M.B.A., New York University
Ph.D., University of Pittsburgh

*Pro Deo et Universitate Award of Vicennial Service

AFFILIATED FACULTY

Swami Ajaya
Himalayan International Institute
B.A., Wesleyan University; Ph.D., University of Californial, Berkeley

Usharbudh Arya
Himalayan International Institute
B.A., M.A., University of London; D.Litt., University of Utrecht

Rudolph Ballentine
Himalayan International Institute
B.S., M.D., Duke University

John Clarke
Himalayan International Institute
B.A., M.D., Harvard University

Lawrence M. Cohen
Himalayan International Institute
B.A., University of Texas at Austin; M.D., Southwestern Medical School

Emily Freeman
Himalayan International Institute
B.A., Hunter College; M.A., M.L.S., Columbia University

Arpita (Joan Harrigan)
Himalayan International Institute
B.A., B.S., University of Tennessee; M.S., Indiana University; M.Ed., Texas Tech University; Ph.D., Pennsylvania State University

John R. Harvey
Himalayan International Institute
B.A., M.A., Ph.D., University of Wisconsin

Phil Nuernberger
Himalayan International Institute
B.A., Southern Illinois University; Ph.D., University of Minnesota

Justin O'Brien
Himalayan International Institute
A.B., Notre Dame University; B.Ph., M.A., St. Albert's College M.A., Marquette University; D.Th., Nijmegen University

Susan L. Thornburg
Himalayan International Institute
B.A., American University; Ph.D., University of Minnesota

Pandit Rajmani Tigunait
Himalayan International Institute
M. of Sanskrit; Ph.D., University of Allahabad

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PROFESSIONAL LECTURERS

Michael J. Aronica
Lecturer in Rehabilitation Counseling
B.S., University of Scranton;
M.D., Jefferson Medical College

Frederic A. Birmingham (1976)
Assistant Professor of Journalism (1976)
B.A., Dartmouth College

Barbara L. Brundige
Lecturer in Rehabilitation Counseling
B.A., Denison University,
M.A., The Ohio State University

John S. Flanagan
Lt. Colonel, U.S. Army - Retired,
Lecturer in Business Administaation
B.A., College of William & Mary,
M.S., University of Alabama

Hope Horn
Lecturer in Art Education
B.S., Temple University;
M.F.A., Tyler School of Art,
Temple University

Joseph Joyce
Lecturer in Business Administration
B.S., M.B.A., University of Scranton

Robert I. Malloy
Lecturer in Business Administration,
A.B., M.S., University of Scranton

Robert McAndrew
Lecturer in Human Resources
Administration
B.S.,M.B.A., University of Scranton
Candidate for M.S., Health Care
Administration, Trinity University

William J. McDonnell
Lecturer in Business Administration,
B.S., University of Scranton,
C.P.A., Pennsylvania

Andrew T. Palencar
Lecturer in Art
B.F.A., Pratt Institute
M.A., Columbia University

John J. Roman
Lecturer in Elementary Education
B.S., University of Miami;
M.S., University of Scranton;
Cand. Ed.D., Temple University

Adrian A. Samojlowicz
Lecturer in Human Resources
Administration
B.S., Temple University;
M.B.A., Xavier University

Philip H. Siegel
Lecturer in Business Administration
A.B., Wilkes College; M.B.A., University
of Cincinnati; Ph.D., New York
University

Robert Spinelli
Lecturer in Human Resources
Administration
B.B.A., Temple University
M.B.A., University of Scranton
M.P.H., Columbia University

*Pro Deo et Universitate Award of Vicennial Service

IN MEMORIAM

Dr. Carl P. Barone

Professor of Education (1970-1982)
Chairman, Department of Education (1974-1980)

Died: January 7, 1982

UNIVERSITY POLICY STATEMENTS

The provisions of this publication are not to be regarded as a contract between the student and the University of Scranton. Changes are effected from time to time in the general regulations and in the academic requirements. There are established procedures for making changes, procedures which protect the institution's integrity and the individual student's interest and welfare. A curriculum or graduation requirement, when altered, is not made retroactive unless the alteration is to the student's advantage and can be accommodated within the span of years normally required for graduation. When the actions of a student are judged by competent authority, using established procedure, to be detrimental to the interests of the University community, that person may be required to withdraw from the University.

The University of Scranton is a Catholic, Jesuit educational institution serving men and women, and is committed to equal opportunity in employment and education for all persons without regard to race, color, creed, ancestry, sex, national origin, handicap, or age.

UNIVERSITY OF SCRANTON CAMPUS GUIDE

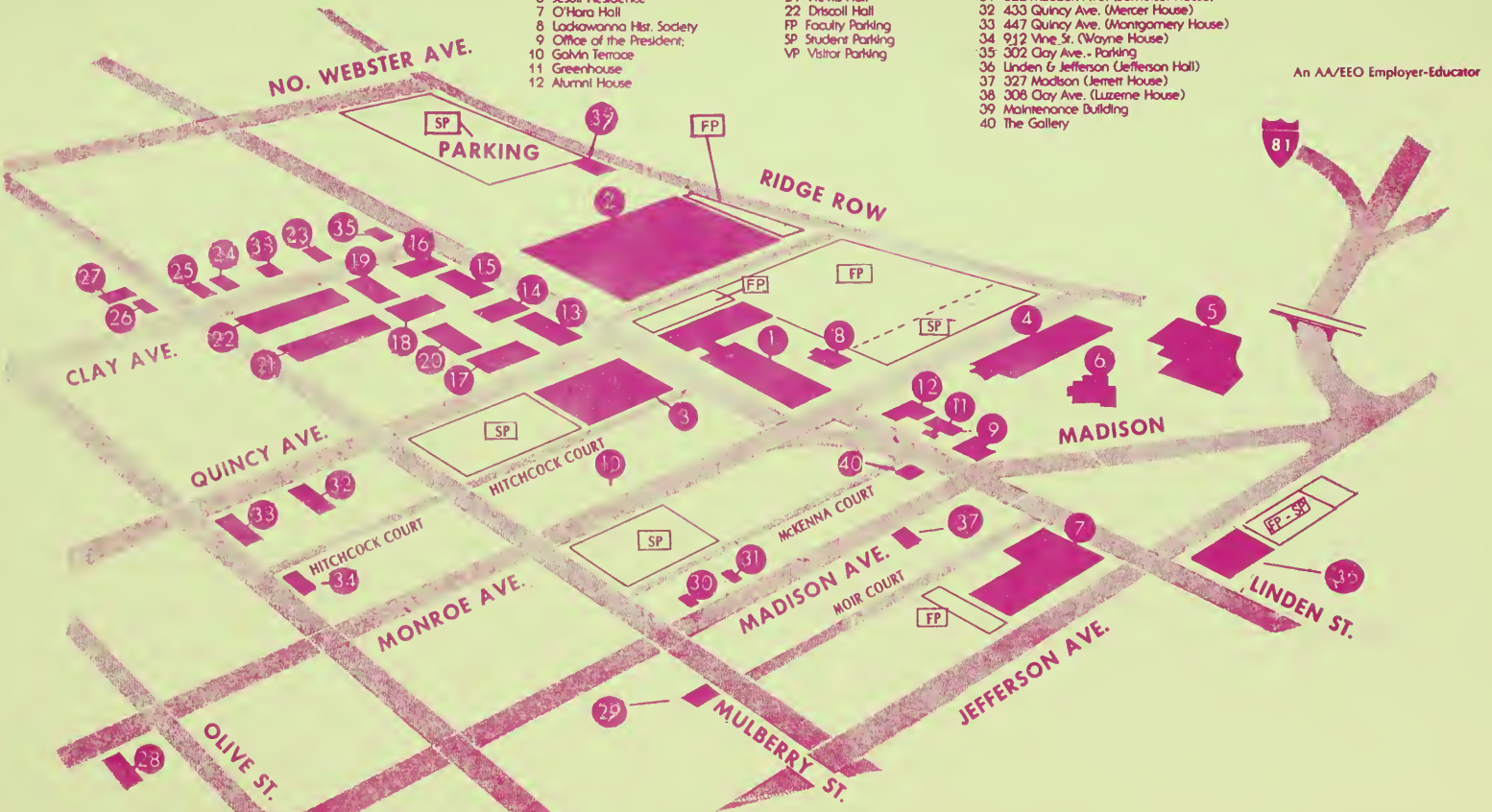
JUNE 1, 1980

1 Saint Thomas Hall
Information Center
Room T-206
717-961-7400
2 John J. Long Center
3 Joseph F. Gunster Memorial
Student Activities Center
4 Loyola Hall of Science
5 Alumni Memorial Library
6 Jesuit Residence
7 O'Hara Hall
8 Lackawanna Hist. Society
9 Office of the President;
10 Galvin Terrace
11 Greenhouse
12 Alumni House

DORMITORIES
13 Martin Hall
14 Casey Hall
15 Lynett Hall
16 Hannan Hall
17 Fitch Hall
18 Dennis Edward Hall
19 Hafey Hall
20 McCourt Hall
21 Nevils Hall
22 Driscoll Hall
FP Faculty Parking
SP Student Parking
VP Visitor Parking

OFF CAMPUS
23 306 Clay Ave. (Lancaster House)
24 326 Clay Ave. (Blair House)
25 328 Clay Ave. (Westmoreland House)
26 400 Clay Ave. (Fayette House)
27 1119 Mulberry Ave. (Tioga House)
28 615 Monroe Ave. (Monroe House)
29 717 Mulberry Ave. (Lackawanna House)
30 328 Madison Ave. (Bradford House)
31 322 Madison Ave. (Somerset House)
32 433 Quincy Ave. (Mercer House)
33 447 Quincy Ave. (Montgomery House)
34 912 Vine St. (Wayne House)
35 302 Clay Ave. - Parking
36 Linden & Jefferson (Jefferson Hall)
37 327 Madison (Jerrett House)
38 308 Clay Ave. (Luzerne House)
39 Maintenance Building
40 The Gallery

An AA/EEO Employer-Educator



The University of Scranton

offers Graduate programs in the following areas:

- ART EDUCATION
- BIOCHEMISTRY
- BUSINESS ADMINISTRATION
- CHEMISTRY
- COUNSELOR EDUCATION
- ELEMENTARY EDUCATION
- ELEMENTARY SCHOOL ADMINISTRATION
- ENGLISH (Thesis and Non-thesis)
- GENERAL SCIENCE
- HISTORY (Thesis and Non-thesis)
- HUMAN RESOURCES ADMINISTRATION
- MUSIC EDUCATION
- PHYSICS
- READING
- REHABILITATION COUNSELING
- SECONDARY EDUCATION
- SECONDARY SCHOOL ADMINISTRATION
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